

North America Liquid Hydrogen Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 – 2034

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Abstracts

North America Liquid Hydrogen Market, valued at USD 10.7 billion in 2024, is set to expand at a robust CAGR of 4.9% from 2025 to 2034. Liquid hydrogen, created by cooling hydrogen gas to extremely low temperatures below -252.8°C, plays a pivotal role in a wide range of industrial and energy applications. As the hydrogen economy continues to grow, the development of hydrogen refueling infrastructure, alongside increasing investments in green hydrogen production, is expected to accelerate the adoption of liquid hydrogen across multiple sectors.

The market is being driven by escalating investments in renewable energy technologies and stringent government regulations aimed at decarbonization. Advancements in hydrogen production and storage technologies are enhancing the economic feasibility of liquid hydrogen. North American governments, particularly in the U.S. and Canada, are committing substantial resources to hydrogen infrastructure and supporting clean hydrogen initiatives as part of their broader decarbonization strategies, fueling market growth.

The cryogenic tanks segment, which is crucial for the safe storage and transportation of liquid hydrogen, is forecast to generate USD 13.5 billion by 2034. Cryogenic tanks, designed to handle ultra-cold, energy-dense fluids, are essential across industries such as aerospace, electronics, and materials processing. The growing demand for liquid hydrogen in these sectors, combined with ambitious carbon reduction goals—especially in the transportation sector—is expected to drive significant growth in this segment.

The coal gasification sector is projected to grow at a 3.5% CAGR through 2034. As the shift toward cleaner and more sustainable energy sources continues, and with the



expanding hydrogen value chain, the adoption of liquid hydrogen is expected to rise. Government-backed initiatives, including research funding, tax incentives, and advancements in gasifier and carbon capture technologies, will continue to support market growth. Additionally, the increasing demand for low-carbon hydrogen, particularly from coal gasification processes, is further driving market expansion.

The U.S. liquid hydrogen market is expected to generate USD 14 billion by 2034, driven by the nationwide development of hydrogen refueling stations and large-scale production facilities. The ongoing push for green hydrogen production, powered by renewable energy sources, will further propel market growth. Hydrogen's role as a reliable backup power source for critical infrastructure, combined with its integration into corporate sustainability strategies, is expected to enhance market penetration and accelerate industry expansion.



Contents

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 INDUSTRY INSIGHTS

- 2.1 Industry ecosystem
- 2.2 Regulatory landscape
- 2.3 Industry impact forces
 - 2.3.1 Growth drivers
 - 2.3.2 Industry pitfalls & challenges
- 2.4 Growth potential analysis
- 2.5 Porter's analysis
 - 2.5.1 Bargaining power of suppliers
 - 2.5.2 Bargaining power of buyers
 - 2.5.3 Threat of new entrants
 - 2.5.4 Threat of substitutes
- 2.6 PESTEL analysis

CHAPTER 3 COMPETITIVE LANDSCAPE, 2024

- 3.1 Introduction
- 3.2 Strategic dashboard
- 3.3 Innovation & technology landscape

CHAPTER 4 MARKET SIZE AND FORECAST, BY PRODUCTION METHOD, 2021 – 2034 (USD BILLION & MT)

- 4.1 Key trends
- 4.2 Coal Gasification
- 4.3 SMR



4.4 Electrolysis

CHAPTER 5 MARKET SIZE AND FORECAST, BY DISTRIBUTION METHOD, 2021 – 2034 (USD BILLION & MT)

- 5.1 Key trends
- 5.2 Pipelines
- 5.3 Cryogenic Tanks

CHAPTER 6 MARKET SIZE AND FORECAST, BY END USE, 2021 – 2034 (USD BILLION & MT)

- 6.1 Key trends
- 6.2 Transportation
- 6.3 Chemicals
- 6.4 Others

CHAPTER 7 MARKET SIZE AND FORECAST, BY COUNTRY, 2021 – 2034 (USD BILLION & MT)

- 7.1 Key trends
- 7.2 U.S.
- 7.3 Canada

CHAPTER 8 COMPANY PROFILES

- 8.1 Air Liquide
- 8.2 Air Products and Chemicals
- 8.3 Chart Industries
- 8.4 ENGIE
- 8.5 ENH2
- 8.6 GE Appliances
- 8.7 Iwatani Corporation
- 8.8 Kawasaki Heavy Industries
- 8.9 Linde plc
- 8.10 MATHESON TRI-GAS
- 8.11 Messer
- 8.12 Plug Power
- 8.13 Shell



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