

# **Pipeline Hydrogen Transport Market Forecasts to 2034 – Global Analysis By Pipeline Type (Dedicated Hydrogen Pipelines, Blended Pipelines, Retrofitted Natural Gas Pipelines and New Hybrid Pipelines), Application and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Pipeline Hydrogen Transport Market is accounted for \$8.2 billion in 2026 and is expected to reach \$350.5 billion by 2034 growing at a CAGR of 60.0% during the forecast period. Hydrogen pipeline transport is a developing approach for delivering hydrogen from production facilities to industrial users and energy demand hubs using either newly built or converted natural gas pipeline infrastructure. It is essential for scaling up the hydrogen economy by providing efficient, continuous, and economical distribution over long distances. Because hydrogen molecules are extremely small and can lead to material embrittlement and leakage, pipelines require advanced engineering materials and strict safety measures. Many governments and energy firms are actively investing in expanding and modernizing pipeline networks to accelerate decarbonization and support clean energy transition efforts worldwide across global regions.

According to the U.S. Department of Energy (DOE, Hydrogen Program, 2023), the United States already operates over 1,600 miles of dedicated hydrogen pipelines, primarily serving industrial clusters.

### **Market Dynamics:**

#### **Driver:**

Rising industrial hydrogen demand

Increasing demand for hydrogen across industrial sectors is strongly supporting the growth of hydrogen pipeline transport. Key industries like oil refining, chemical production, steelmaking, and fertilizer manufacturing are shifting toward hydrogen as a cleaner input and fuel source. This transition is driving the need for large, steady hydrogen supplies. Pipelines provide a more economical and consistent delivery option compared to other transport methods such as road or sea. Since industrial operations require uninterrupted hydrogen flow, pipeline networks are becoming essential. The expansion of hydrogen-dependent manufacturing processes is therefore accelerating investments in dedicated infrastructure for safe and efficient hydrogen transportation systems.

**Restraint:**

High infrastructure development costs

The high cost of developing hydrogen pipeline infrastructure acts as a significant barrier to market growth. Constructing new pipelines or upgrading existing natural gas networks demands costly specialized materials and engineering solutions to manage hydrogen's leakage risks and material degradation issues. Moreover, large-scale pipeline projects involve lengthy approval processes, land procurement, and compliance requirements that increase overall project costs. These financial burdens limit participation from smaller firms and reduce investment attractiveness, ultimately slowing the expansion of hydrogen transport networks across global regions and delaying widespread adoption of hydrogen infrastructure.

**Opportunity:**

Development of hydrogen energy corridors

Hydrogen energy corridors are emerging as a major opportunity for pipeline transport systems. Governments are designing dedicated routes that link hydrogen production centers with industrial zones, ports, and export locations. These multi-regional or cross-border corridors support large-scale hydrogen movement and international energy trade. Pipelines serve as the backbone of these networks, enabling efficient and continuous supply. With rising global hydrogen demand, these corridors are expected to become essential for building interconnected hydrogen economies, improving energy exchange, and strengthening global clean energy distribution systems in the future.

**Threat:**

Competition from alternative hydrogen transport methods

The growth of alternative hydrogen transport solutions poses a significant challenge to pipeline infrastructure development. Options such as liquid hydrogen transport, ammonia conversion, and chemical carriers are becoming increasingly popular because they offer flexibility for international and long-distance delivery. These methods typically require less initial investment than building extensive pipeline networks, making them more appealing in cost-sensitive regions. As these competing technologies advance and become more efficient, they may reduce dependence on pipeline systems, potentially restricting market growth and limiting large-scale pipeline deployment worldwide.

**Covid-19 Impact:**

The COVID-19 outbreak created both challenges and indirect opportunities for the hydrogen pipeline transport market. Initially, lockdown measures disrupted supply chains, halted construction activities, and caused labor shortages, leading to delays in ongoing and planned pipeline projects. Industrial slowdown and economic uncertainty also resulted in postponed investments in hydrogen infrastructure. However, the crisis highlighted the importance of resilient and sustainable energy systems. Governments responded with recovery packages that emphasized clean energy, including hydrogen development. This shift supported long-term market prospects despite short-term setbacks.

The dedicated hydrogen pipelines segment is expected to be the largest during the forecast period

The dedicated hydrogen pipelines segment is expected to account for the largest market share during the forecast period. These systems are purpose-built for the exclusive transport of hydrogen, offering superior safety, operational efficiency, and performance compared to other pipeline types. By avoiding compatibility issues associated with existing gas pipelines, they reduce risks such as leakage and material degradation. They are especially suitable for large-scale hydrogen distribution networks, industrial zones, and long-distance energy corridors. Growing investments in hydrogen production and supportive government initiatives are driving their adoption.

The mobility segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the mobility segment is predicted to witness the highest growth rate. This growth is largely supported by the rising use of hydrogen-powered transportation, such as fuel cell buses, heavy-duty trucks, trains, and marine vessels. Governments worldwide are promoting clean mobility solutions and investing in hydrogen refueling infrastructure to reduce carbon emissions from transport. The shift toward zero-emission transport systems and increasing deployment of hydrogen vehicles is significantly boosting demand, positioning mobility as the fastest-expanding segment within the hydrogen transport ecosystem globally.

### **Region with largest share:**

During the forecast period, the Europe region is expected to hold the largest market share because of its aggressive climate policies and advanced energy infrastructure. The region is heavily investing in hydrogen backbone systems, cross-border pipeline corridors, and renewable hydrogen production projects. Key countries like Germany, France, and the Netherlands are at the forefront of building hydrogen transport networks under the European Union's clean energy initiatives. Strict environmental regulations and net-zero commitments are encouraging rapid adoption of hydrogen solutions. Strong partnerships between public authorities and private companies are further supporting infrastructure expansion.

### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid industrial growth and increasing energy consumption. Major economies like China, Japan, South Korea, and India are actively developing hydrogen infrastructure, including production facilities and transport pipelines. Strong government initiatives aimed at reducing carbon emissions across industries such as power, transport, and manufacturing are fueling demand. Expansion of renewable energy projects and green hydrogen adoption further supports market acceleration.

### **Key players in the market**

Some of the key players in Pipeline Hydrogen Transport Market include BP p.l.c., Enbridge Inc., Linde plc, L'Air Liquide S.A., Air Products and Chemicals Inc, Snam S.p.A., N.V. Nederlandse Gasunie, Enag's S.A., Fluxys Belgium SA, GRTgaz SA, ONTRAS Gastransport GmbH, DESFA (Hellenic Gas Transmission System Operator S.A.), Ter?ga S.A., Energinet, TC Energy Corporation, Kinder Morgan Inc., Saipem

S.p.A. and Technip Energies N.V.

### **Key Developments:**

In May 2025, Enbridge Inc. announced an agreement whereby the Stonlasec8 Indigenous Alliance Limited Partnership, which currently represents 36 First Nations in B.C., will make an investment of approximately CAD\$715 million in Enbridge's Westcoast natural gas pipeline system, resulting in the First Nations Partnership owning a 12.5% interest in that system, subject to certain closing conditions as well as customary closing adjustments.

In January 2025, BP plc has solidified its 70-year collaboration with United States-based KBR, Inc. KBR through a new global agreement that spans BP's onshore, offshore, greenfield and brown field conventional energy projects as well as its new energy initiatives. This partnership highlights the company's commitment to leveraging KBR's proven expertise to deliver cutting-edge energy solutions.

### **Pipeline Types Covered:**

Dedicated Hydrogen Pipelines

Blended Pipelines

Retrofitted Natural Gas Pipelines

New Hybrid Pipelines

### **Applications Covered:**

Industrial Use

Power Generation

Mobility

Residential & Commercial Heating

**Regions Covered:****North America**

United States

Canada

Mexico

**Europe**

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

**Asia Pacific**

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

**What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

**Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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