

Biogas Upgrading Equipment Market Outlook 2025-2034: Market Share, and Growth Analysis By Type (Chemical Scrubber, Water Scrubber, Pressure Swing Adsorption (PSA), Membrane), By Feedstock (Municipal Solid Waste, Agricultural Residues, Wastewater Sludge, Food Waste, Industrial Organic Waste, Other Feedstocks), By End-User

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Abstracts

The Biogas Upgrading Equipment Market is valued at USD 2.9 billion in 2025 and is projected to grow at a CAGR of 18.8% to reach USD 13.6 billion by 2034. The biogas upgrading equipment market has gained significant traction as the demand for renewable natural gas (RNG) continues to rise. Biogas upgrading systems are designed to remove impurities such as carbon dioxide, hydrogen sulfide, and moisture from raw biogas, converting it into high-purity biomethane. This upgraded biomethane can be injected into natural gas pipelines, used as a vehicle fuel, or applied in industrial processes, offering a clean, sustainable alternative to conventional natural gas. With increasing adoption of RNG across transportation, power generation, and heating applications, the market for biogas upgrading equipment has expanded rapidly, supported by technological advancements and favorable regulatory frameworks. Technological innovation has been a key driver of growth in this market. Advanced upgrading technologies such as membrane separation, pressure swing adsorption (PSA), water scrubbing, and chemical absorption have improved the efficiency, reliability, and cost-effectiveness of upgrading systems. These methods not only enhance the quality of biomethane but also reduce operational costs and energy consumption, making them attractive to project developers and operators. Additionally, the development of compact, modular upgrading units has facilitated their adoption in small-scale and decentralized biogas plants, broadening the market's reach and

application scope. Regionally, Europe leads the biogas upgrading equipment market, driven by strict renewable energy targets, government incentives, and a well-established biogas infrastructure. North America is also experiencing strong growth, fueled by state-level renewable fuel standards, increasing RNG production facilities, and growing investment in sustainable energy technologies. The Asia-Pacific region is emerging as a high-potential market, supported by rising energy demand, expanding waste-to-energy initiatives, and government policies promoting green energy solutions. As the global push toward renewable energy intensifies, the biogas upgrading equipment market is poised for continued growth, underpinned by innovation, supportive regulations, and the ongoing transition to a low-carbon economy.

Key Insights Biogas Upgrading Equipment Market

Increased adoption of advanced upgrading technologies such as membrane separation and PSA for high-efficiency biomethane production.

Growing interest in small-scale and modular upgrading units to serve local and community-level energy needs.

Rising integration of upgrading systems with biogas plants to streamline operations and improve overall project economics.

Expanding global demand for renewable natural gas as a sustainable alternative to fossil fuels.

Supportive government policies, subsidies, and renewable fuel mandates encouraging RNG production and upgrading.

Advancements in upgrading technologies reducing costs, increasing efficiency, and broadening application potential.

High upfront capital costs for installing and integrating upgrading equipment.

Complexity of scaling technologies for small- and medium-sized biogas facilities.

Regulatory and permitting hurdles that can delay project timelines and increase overall costs.

Biogas Upgrading Equipment Market Segmentation

By Type

Chemical Scrubber

Water Scrubber

Pressure Swing Adsorption (PSA)

Membrane

By Feedstock

Municipal Solid Waste

Agricultural Residues

Wastewater Sludge

Food Waste

Industrial Organic Waste

Other Feedstocks

By End-User

Wastewater Treatment Plants

Landfills

Agricultural Digesters

Industrial Facilities

Commercial And Residential

Other End-Users

Key Companies Analysed

Veolia Environnement S.A.

Air Liquide SA

Atlas Copco AB

Air Products and Chemicals Inc.

W?rtsil? Oyj Abp

Schmack Carbotech GmbH

Pentair Plc

Eisenmann Corporation (Eisenmann SE)

Plug Power

Hitachi Zosen Inova BioMethan GmbH (HZIB)

Clean Energy Fuels Corp.

EnviTec Biogas AG

HAASE Energietechnik GmbH (HAASE group)

2G Energy AG

Anaergia Inc.

DP CleanTech Group Limited

Greenlane Renewables Inc.

DMT Environmental Technology BV

Xebec Adsorption Inc.

DVO Inc.

Malmberg SE

Carbotech Gas Systems GmbH

Bright Biomethane B.V.

Condorchem Envitech S.L.

Jog Waste to Energy Private Limited

AAT Abwasser- und Abfalltechnik GmbH

Das Grüne Emissionshaus GmbH

Nacelle Logistics LLC (Avolta Renewable Holdings)

NeoZeo AB

Biogas Upgrading Equipment Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Biogas Upgrading Equipment Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — Biogas Upgrading Equipment market data and outlook to 2034

United States

Canada

Mexico

Europe — Biogas Upgrading Equipment market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Biogas Upgrading Equipment market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Biogas Upgrading Equipment market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Biogas Upgrading Equipment market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the Biogas Upgrading Equipment value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the Biogas Upgrading Equipment industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the Biogas Upgrading Equipment Market Report

Global Biogas Upgrading Equipment market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on Biogas Upgrading Equipment trade, costs, and supply chains

Biogas Upgrading Equipment market size, share, and outlook across 5 regions and 27 countries, 2023-2034

Biogas Upgrading Equipment market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term Biogas Upgrading Equipment market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and Biogas Upgrading Equipment supply chain analysis

Biogas Upgrading Equipment trade analysis, Biogas Upgrading Equipment market price analysis, and Biogas Upgrading Equipment supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest Biogas Upgrading Equipment market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

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