

Biomethane Market Outlook 2026-2034: Market Share, and Growth Analysis By Source (Energy Crops, Animal Manure, Municipal Waste, Waste Water Sludge, Others), By End-User (Construction, Industrial, Power Generation, Transport, Others)

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Abstracts

The Biomethane Market is valued at USD 14.19 billion in 2025 and is projected to grow at a CAGR of 14.9% to reach USD 49.53 billion by 2034.

Biomethane Market

The Biomethane market - often traded as Renewable Natural Gas (RNG) - converts biogenic methane from anaerobic digestion and landfill gas into pipeline-quality gas for heat, power, mobility, and chemicals. Core feedstocks include municipal solid waste, wastewater sludge, agricultural residues and manures, agro-industrial by-products, and purpose-grown energy crops in select regions. Top applications span grid injection for residential/industrial heat, CNG/LNG for heavy-duty transport, CHP and dispatchable power, and as a green molecule for chemicals, hydrogen via reforming, and e-fuels such as methanol or SAF precursors. The latest trends emphasize carbon-intensity scoring and guarantees of origin; cluster development around dairies and food processors; modular upgrading skids (membrane, PSA, water/amine scrubbing, cryogenic) sized to distributed feedstocks; integration of CO₂ by-product streams with green-H₂ methanation; and monitoring, reporting, and verification to curb fugitive emissions. Strategic drivers include decarbonization of hard-to-electrify heat and transport, corporate demand for drop-in molecules, circular-economy mandates diverting organics from landfill, and rural income diversification. The competitive landscape blends waste-management majors, utilities, farmer co-ops, independent project developers, EPCs, and infrastructure funds; offtake spans gas marketers, fleets,

and industrials under environmental attribute schemes. Differentiation hinges on durable feedstock contracting, interconnection access, uptime and O&M discipline, digestate valorization (nutrient recovery, fiber), leakage control, and bankable offtake with verified carbon attributes. As policymakers tighten methane-emissions rules and expand renewable-gas targets, platforms that pair repeatable project templates with rigorous MRV, low-CI pathways, and scaled financing are best positioned.

Biomethane Market Key Insights

Transport fuel is the fastest unlock. Heavy-duty fleets, refuse trucks, and buses adopt RNG to meet near-term decarbonization with drop-in fuel, leveraging negative/low CI pathways from manure and landfill gas. Bio-LNG growth supports long-haul corridors and maritime pilots.

Industrial heat & grid decarb add durable baseload. Food & beverage, ceramics, paper, and district heating value biomethane for high-temperature processes where electrification is hard. Utilities use RNG blends to green customer tariffs and meet methane-reduction goals.

Feedstock hierarchy rules economics. Manure and certain organic waste streams deliver the strongest CI scores (often net-negative) and best incentive stacking; municipal solid waste and landfill gas provide volume at scale; energy crops are policy-sensitive and face sustainability scrutiny.

Upgrading tech is mature, costs trending down. Membrane separation, PSA, water wash, and amine systems are established; module standardization, better uptime, and digital O&M are trimming \$/Nm³. Choice hinges on gas composition (H₂S, moisture, siloxanes) and grid specs.

Carbon intensity is now a currency. Projects are optimized around CI: pre-digestion logistics, methane capture efficiency, parasitic load, and digestate handling. Negative-CI projects command premium credits and long-term offtakes; rigorous MRV and leak detection are table stakes.

Stacked revenues de-risk projects. Typical stacks blend gas sales (index-linked), environmental attributes (GoOs, RINs/LCFS-type), bio-CO₂ offtake for CCU, and digestate/organic fertilizer sales. This improves DSCRs and widens bankability, especially with fixed-price attribute floors.

Permitting & interconnection bottlenecks persist. Grid-injection capacity, pipeline interconnect queues, gas-quality compliance, and odor/noise constraints slow timelines. Early utility engagement and “virtual pipeline” (CNG/LNG trucking) help bridge delays to grid tie-in.

Market structure is consolidating. Utilities, midstream players, and energy majors are rolling up developers and O&M platforms to secure feedstock, attributes, and offtake portfolios. Scale advantages show up in EPC buying power, standardized designs, and credit marketing.

Key risks to watch. Policy volatility (credit price swings/eligibility changes), methane leakage scrutiny, sustainability criteria on feedstocks, competition from electrification/green H₂, and community acceptance. Winners will prove low leakage, robust ESG, and flexible, multi-offtake models.

Biomethane Market Regional Analysis

North America

Strong pipeline access, mature landfill gas capture, and dairy clusters drive scale. Attribute markets and fleet decarbonization fuel transport demand. Key constraints are interconnection queues, nitrogen oxide permitting for CHP, and methane MRV expectations. Developers with utility partnerships, virtual pipeline logistics, and robust leak-detection programs outperform; digestate markets underpin rural acceptance.

Europe

Policy targets for renewable gas in heat and industry, organics-to-landfill restrictions, and gas-grid blending standards support steady build-out. Farm and municipal digesters dominate; guarantees of origin enable corporate sourcing. Grid constraints and sustainability criteria elevate pressure on nutrient management and biodiversity. Power-to-methane pilots expand where surplus renewables and CO₂ streams align.

Asia-Pacific

Heterogeneous landscape: advanced markets deploy wastewater and food-waste RNG into city networks, while emerging markets focus on landfill gas and agri hubs. Urban waste reforms and biowaste segregation accelerate feedstock quality. Industrial heat

users and CNG fleets are key offtakers. Local manufacture of modular skids and service ecosystems shortens timelines.

Middle East & Africa

Waste-to-energy programs and food/agri clusters create early opportunities, often in special economic zones. High temperatures and sand/dust require rugged pre-treatment and cooling strategies. Pipeline options may be limited, favoring CNG hubs and captive industrial users. Donor and sovereign funding support pilots; nutrient recovery is central to water-scarce agriculture.

South & Central America

Sugarcane, livestock, and food-processing residues provide abundant feedstock. RNG supports industrial boilers and transport fleets in metros; credit frameworks are emerging. Currency volatility and permitting variability make modular, phased rollouts attractive. Partnerships with utilities and agro-cooperatives, plus clear digestate commercialization routes, improve bankability.

Biomethane Market Segmentation

By Source

Energy Crops

Animal Manure

Municipal Waste

Waste Water Sludge

Others

By End-User

Construction

Industrial

Power Generation

Transport

Others

Key Market players

Air Liquide, Waga Energy, ENGIE, Veolia, TotalEnergies, Shell (Nature Energy), BP (Archaea Energy), Clean Energy Fuels, EnviTec Biogas AG, VERBIO Vereinigte BioEnergie AG, Greenlane Renewables, DMT Environmental Technology, Bright Biomethane, Gasum, Scandinavian Biogas

Biomethane Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modelling, 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 behaviour are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

Biomethane 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 — Biomethane market data and outlook to 2034

United States

Canada

Mexico

Europe — Biomethane market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — Biomethane market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — Biomethane market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — Biomethane 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 Biomethane 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

Biomethane Market Outlook 2026-2034: Market Share, and Growth Analysis By Source (Energy Crops, Animal Manure,...

What is the current and forecast market size of the Biomethane 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 Biomethane Market Report

Global Biomethane market size and growth projections (CAGR), 2024-2034

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

Biomethane market size, share, and outlook across 5 regions and 27 countries, 2023-2034

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

Short- and long-term Biomethane market trends, drivers, restraints, and opportunities

Porter’s Five Forces analysis, technological developments, and Biomethane

supply chain analysis

Biomethane trade analysis, Biomethane market price analysis, and Biomethane supply/demand dynamics

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

Latest Biomethane 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.

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* The updated report will be delivered within 3 working days

Contents

1. TABLE OF CONTENTS

- 1.1 List of Tables
- 1.2 List of Figures

2. GLOBAL BIOMETHANE MARKET SUMMARY, 2025

- 2.1 Biomethane Industry Overview
 - 2.1.1 Global Biomethane Market Revenues (In US\$ billion)
- 2.2 Biomethane Market Scope
- 2.3 Research Methodology

3. BIOMETHANE MARKET INSIGHTS, 2024-2034

- 3.1 Biomethane Market Drivers
- 3.2 Biomethane Market Restraints
- 3.3 Biomethane Market Opportunities
- 3.4 Biomethane Market Challenges
- 3.5 Tariff Impact on Global Biomethane Supply Chain Patterns

4. BIOMETHANE MARKET ANALYTICS

- 4.1 Biomethane Market Size and Share, Key Products, 2025 Vs 2034
- 4.2 Biomethane Market Size and Share, Dominant Applications, 2025 Vs 2034
- 4.3 Biomethane Market Size and Share, Leading End Uses, 2025 Vs 2034
- 4.4 Biomethane Market Size and Share, High Growth Countries, 2025 Vs 2034
- 4.5 Five Forces Analysis for Global Biomethane Market
 - 4.5.1 Biomethane Industry Attractiveness Index, 2025
 - 4.5.2 Biomethane Supplier Intelligence
 - 4.5.3 Biomethane Buyer Intelligence
 - 4.5.4 Biomethane Competition Intelligence
 - 4.5.5 Biomethane Product Alternatives and Substitutes Intelligence
 - 4.5.6 Biomethane Market Entry Intelligence

5. GLOBAL BIOMETHANE MARKET STATISTICS – INDUSTRY REVENUE, MARKET SHARE, GROWTH TRENDS AND FORECAST BY SEGMENTS, TO 2034

5.1 World Biomethane Market Size, Potential and Growth Outlook, 2024- 2034 (\$ billion)

5.1 Global Biomethane Sales Outlook and CAGR Growth By Source, 2024- 2034 (\$ billion)

5.2 Global Biomethane Sales Outlook and CAGR Growth By End-User, 2024- 2034 (\$ billion)

5.3 Global Biomethane Sales Outlook and CAGR Growth By Segmentation³, 2024- 2034 (\$ billion)

5.4 Global Biomethane Market Sales Outlook and Growth by Region, 2024- 2034 (\$ billion)

6. ASIA PACIFIC BIOMETHANE INDUSTRY STATISTICS – MARKET SIZE, SHARE, COMPETITION AND OUTLOOK

6.1 Asia Pacific Biomethane Market Insights, 2025

6.2 Asia Pacific Biomethane Market Revenue Forecast By Source, 2024- 2034 (USD billion)

6.3 Asia Pacific Biomethane Market Revenue Forecast By End-User, 2024- 2034 (USD billion)

6.4 Asia Pacific Biomethane Market Revenue Forecast By Segmentation³, 2024- 2034 (USD billion)

6.5 Asia Pacific Biomethane Market Revenue Forecast by Country, 2024- 2034 (USD billion)

6.5.1 China Biomethane Market Size, Opportunities, Growth 2024- 2034

6.5.2 India Biomethane Market Size, Opportunities, Growth 2024- 2034

6.5.3 Japan Biomethane Market Size, Opportunities, Growth 2024- 2034

6.5.4 Australia Biomethane Market Size, Opportunities, Growth 2024- 2034

7. EUROPE BIOMETHANE MARKET DATA, PENETRATION, AND BUSINESS PROSPECTS TO 2034

7.1 Europe Biomethane Market Key Findings, 2025

7.2 Europe Biomethane Market Size and Percentage Breakdown By Source, 2024- 2034 (USD billion)

7.3 Europe Biomethane Market Size and Percentage Breakdown By End-User, 2024- 2034 (USD billion)

7.4 Europe Biomethane Market Size and Percentage Breakdown By Segmentation³, 2024- 2034 (USD billion)

7.5 Europe Biomethane Market Size and Percentage Breakdown by Country, 2024-

2034 (USD billion)

- 7.5.1 Germany Biomethane Market Size, Trends, Growth Outlook to 2034
- 7.5.2 United Kingdom Biomethane Market Size, Trends, Growth Outlook to 2034
- 7.5.2 France Biomethane Market Size, Trends, Growth Outlook to 2034
- 7.5.2 Italy Biomethane Market Size, Trends, Growth Outlook to 2034
- 7.5.2 Spain Biomethane Market Size, Trends, Growth Outlook to 2034

8. NORTH AMERICA BIOMETHANE MARKET SIZE, GROWTH TRENDS, AND FUTURE PROSPECTS TO 2034

8.1 North America Snapshot, 2025

8.2 North America Biomethane Market Analysis and Outlook By Source, 2024- 2034 (\$ billion)

8.3 North America Biomethane Market Analysis and Outlook By End-User, 2024- 2034 (\$ billion)

8.4 North America Biomethane Market Analysis and Outlook By Segmentation³, 2024- 2034 (\$ billion)

8.5 North America Biomethane Market Analysis and Outlook by Country, 2024- 2034 (\$ billion)

8.5.1 United States Biomethane Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.5.1 Canada Biomethane Market Size, Share, Growth Trends and Forecast, 2024- 2034

8.5.1 Mexico Biomethane Market Size, Share, Growth Trends and Forecast, 2024- 2034

9. SOUTH AND CENTRAL AMERICA BIOMETHANE MARKET DRIVERS, CHALLENGES, AND FUTURE PROSPECTS

9.1 Latin America Biomethane Market Data, 2025

9.2 Latin America Biomethane Market Future By Source, 2024- 2034 (\$ billion)

9.3 Latin America Biomethane Market Future By End-User, 2024- 2034 (\$ billion)

9.4 Latin America Biomethane Market Future By Segmentation³, 2024- 2034 (\$ billion)

9.5 Latin America Biomethane Market Future by Country, 2024- 2034 (\$ billion)

9.5.1 Brazil Biomethane Market Size, Share and Opportunities to 2034

9.5.2 Argentina Biomethane Market Size, Share and Opportunities to 2034

10. MIDDLE EAST AFRICA BIOMETHANE MARKET OUTLOOK AND GROWTH PROSPECTS

10.1 Middle East Africa Overview, 2025

10.2 Middle East Africa Biomethane Market Statistics By Source, 2024- 2034 (USD billion)

10.3 Middle East Africa Biomethane Market Statistics By End-User, 2024- 2034 (USD billion)

10.4 Middle East Africa Biomethane Market Statistics By Segmentation³, 2024- 2034 (USD billion)

10.5 Middle East Africa Biomethane Market Statistics by Country, 2024- 2034 (USD billion)

10.5.1 Middle East Biomethane Market Value, Trends, Growth Forecasts to 2034

10.5.2 Africa Biomethane Market Value, Trends, Growth Forecasts to 2034

11. BIOMETHANE MARKET STRUCTURE AND COMPETITIVE LANDSCAPE

11.1 Key Companies in Biomethane Industry

11.2 Biomethane Business Overview

11.3 Biomethane Product Portfolio Analysis

11.4 Financial Analysis

11.5 SWOT Analysis

12 APPENDIX

12.1 Global Biomethane Market Volume (Tons)

12.1 Global Biomethane Trade and Price Analysis

12.2 Biomethane Parent Market and Other Relevant Analysis

12.3 Publisher Expertise

12.2 Biomethane Industry Report Sources and MethodologyOGAMV25R0903

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