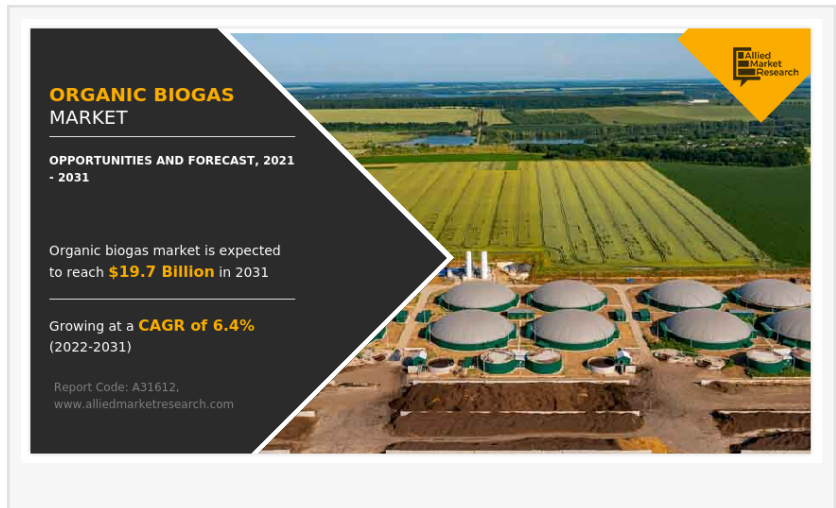


Organic Biogas Market to Reach \$19.7 Billion by 2031, Driven by Waste-to-Energy Transition

Global Organic Biogas Market Set for 6.4% CAGR Growth Amid Rising Renewable Energy Demand

WILMINGTON, DE, UNITED STATES,
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According to a recent report by Allied Market Research, the [organic biogas market](#) was valued at \$10.7 billion in 2021 and is projected to reach \$19.7 billion by 2031, growing at a CAGR of 6.4% from 2022 to 2031. This growth is driven by rising demand for renewable energy, growing environmental awareness, and the global transition toward sustainable energy systems.



“

Organic biogas market to hit \$19.7B by 2031, fueled by renewable energy adoption, waste-to-energy projects, and sustainable mobility solutions.”

Allied Market Research

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□ Key Takeaways

The organic biogas market is projected to reach \$19.7 billion by 2031.

[Landfill gas](#) remains the largest source segment.

Power generation continues to dominate application-wise.

Europe leads the market, while Asia-Pacific is expected to register the fastest growth.

□□ What is Organic Biogas?

Biogas is a renewable and eco-friendly energy source produced when organic matter such as

food waste, animal manure, or sewage is broken down by microorganisms in an oxygen-free process called anaerobic digestion. This process occurs naturally but can also be replicated in engineered digesters.

Thanks to its high methane content, biogas is flammable and produces a blue flame suitable for multiple applications. It is widely used as cooking gas in rural areas, but its scope extends far beyond. Organic biogas can generate electricity, provide heating solutions, and serve as an alternative to compressed natural gas (CNG) in vehicles, making it a versatile clean energy source.

□ Market Drivers

Several factors are accelerating the growth of the organic biogas market:

Environmental Concerns: Rising awareness about pollution control and sustainable practices is driving biogas adoption.

Energy Security: Increasing concerns over fossil fuel depletion have boosted investments in renewable energy alternatives.

Infrastructure Development: Expansion of [biogas plants](#) across industrial and commercial sectors supports growing energy demand.

Government Regulations: Implementation of strict environmental laws and renewable energy mandates fuels industry expansion.

□ Market Restraints

Despite strong growth potential, the market faces notable challenges:

Emission Concerns: The release of compounds like carbon monoxide (CO) during biogas production may impact market growth.

Soil & Water Risks: Anaerobic digestion in landfills can pose contamination risks.

High Investment Needs: Biogas plant construction and advanced technology adoption require substantial capital.

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□ Regional Insights

China: With over 100,000 biogas plants, China leads globally in organic biogas production. Kitchen waste, livestock manure, and energy crops serve as the main feedstocks. Interestingly, two-thirds of biogas plant revenue comes from organic fertilizer rather than energy production.

Germany: Europe's largest biogas producer, operating over 10,000 plants in 2020. Around 80% of feedstock comes from crops grown exclusively for biogas production.

Europe: The region dominates the global market, driven by the EU's renewable energy directives and waste management strategies that align with a circular economy model.

□ Market Segmentation

By Source:

Poultry & Livestock

Agricultural Waste

Landfill Gas (dominant segment)

Others

Landfill gas is a key contributor, as municipal solid waste naturally generates methane-rich gases.

By Application:

Power Generation (leading segment)

Cooking

Combined Heat & Power (CHP)

Clean Mobility

Power generation leads the market, with biogas converted into electricity via combustion engines, turbines, or fuel cells.

By Region:

North America

Europe (market leader)

Asia-Pacific (fastest growth, ~7.1% CAGR)

LAMEA

□ Post-COVID-19 Opportunities

The pandemic created a renewed focus on environmental sustainability and diversification away from oil. This led to a surge in interest for organic biogas in power generation and eco-friendly transportation. Governments are also increasing investments in biofuels and hydrogen energy, opening new opportunities for market expansion.

□ Competitive Landscape

Key players shaping the organic biogas market include:

Air Liquide

Atlas Copco

Biofrigas Sweden AB

CarboTech

DMT Environmental Technology

EnviTec Biogas

Guild Associates Inc.

Xebec Adsorption

Strategic moves such as partnerships, acquisitions, capacity expansions, and technology upgrades are helping companies strengthen their market presence.

For instance:

In November 2021, Xebec acquired UECompression in Colorado to establish North America's leading renewable natural gas facility.

In March 2022, EnviTec announced multiple new biogas projects across the U.S., expanding its international footprint.

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□ Conclusion

The organic biogas market represents a crucial step toward a sustainable and circular energy economy. While challenges such as emissions and capital investment remain, the long-term outlook is highly positive. With strong government support, expanding infrastructure, and increasing environmental awareness, organic biogas is set to play a pivotal role in powering clean energy transitions worldwide. □□

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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