

INDIA BIOMASS MARKET

Market Size, Share, Trends and Forecast to 2035

Market Research Future | Last Updated: 17 September 2026

Executive Summary

Market Research Future estimates the India biomass market at USD 4,829.26 million in 2024 and USD 5,175.03 million in 2025. The market is projected to reach USD 10,335.34 million by 2035, representing a CAGR of 7.16% during 2025-2035. The report attributes growth to government support, rising energy demand, technological improvements, environmental concerns and expanding use of agricultural residues and waste-based feedstocks.

Indicator	Details
2024 Market Size	USD 4,829.26 Million
2025 Market Size	USD 5,175.03 Million
2035 Market Forecast	USD 10,335.34 Million
Forecast CAGR	7.16% (2025-2035)
Historical Data	2019-2024
Forecast Period	2025-2035

Key Market Trends and Highlights

- Government initiatives and policy incentives are promoting biomass adoption across multiple sectors.
- Technological advances in gasification and anaerobic digestion are improving conversion efficiency and reducing costs.
- Consumer awareness of sustainable energy is supporting demand for biomass products, particularly in urban markets.
- Rising energy demand and renewable-energy policy support remain central growth drivers.
- Agricultural residues are a major feedstock base, linking the biomass market closely with agriculture and waste management.

Market Trends

The report describes India’s biomass market as benefiting from the combined effect of renewable-energy policy, agricultural feedstock availability and demand for lower-emission energy sources. Agricultural residues provide a large domestic resource base, while conversion technologies are becoming more efficient. The source also expects continued collaboration across agriculture, energy and waste management as biomass becomes more integrated into India’s energy transition.

Government Initiatives

The Indian government is described as promoting biomass through policies, financial support, subsidies and incentives designed to reduce dependence on fossil fuels and stimulate renewable-energy projects. The report also identifies the National Biofuel Policy and the 20% biofuel blending target for 2025 as important elements of the policy environment.

Technological Advancements

Gasification and anaerobic digestion are highlighted as important conversion technologies. Improvements in these processes are expected to raise energy yields, lower operating costs and improve the commercial attractiveness of biomass energy systems.

Consumer Awareness

Growing awareness of climate change, pollution and sustainable energy is encouraging households and businesses to consider cleaner energy alternatives. The report presents this change in perception as an additional demand driver.

Market Drivers and Opportunities

Rising Energy Demand

Population growth and urbanisation are increasing demand for reliable energy. Biomass is positioned in the report as a renewable source capable of supporting this demand while contributing to energy security and diversification.

Government Policy Support

Government schemes, incentives, subsidies and tax benefits are cited as supporting investment and innovation in biomass. The report connects policy support for biofuels and renewable energy with stronger demand for biomass feedstocks and projects.

Waste Management Solutions

India's waste-management challenge is identified as a significant biomass opportunity. Agricultural residues, municipal solid waste and other organic materials can be converted into useful energy, simultaneously reducing disposal pressure and creating additional energy output. The source notes that urban India generates around 62 million tonnes of waste annually.

Rising Environmental Concerns

The shift toward lower-carbon energy is expected to benefit biomass. The report states that biomass can reduce carbon emissions by up to 80% compared with traditional fossil fuels, supporting its role in a lower-carbon energy mix.

Segment Analysis

By Application

Electricity generation is identified as the dominant biomass application, supported by renewable-energy policy, investment and a growing network of biomass power plants. Heat generation is described as the emerging and fastest-growing application, particularly for industries such as textiles and food processing seeking alternatives to conventional heating.

By Feedstock Type

Agricultural residues are the dominant feedstock because of India's large agricultural base and the availability of crop stalks, husks, leaves and other by-products. Energy crops are presented as an emerging feedstock category, supported by their higher energy yields and growing interest in dedicated renewable-energy resources.

By Technology

Gasification is identified as the dominant technology, converting carbonaceous materials into syngas and offering cleaner conversion characteristics than conventional combustion. Combustion is described as the fastest-growing or emerging technology because of its straightforward operation and broad use in power generation and heating.

By End Use

Residential use holds the largest share in the source, reflecting widespread use of locally available biomass for cooking and heating. Industrial use is identified as the fastest-growing end-use category as manufacturers seek cleaner energy options and integrate biomass into production processes.

Market Segmentation

Segment	Coverage
End Use	Industrial; Commercial; Residential
Product	Biodiesel; Biomethanol; Biogas; Others
Feedstock	Food Crop; Non-Food Crop; Wood; Agricultural Residue; Municipal Solid Waste (MSW); Microalgae; Others
Technology	Combined Heat and Power (CHP); Anaerobic Digestion; Gasification; Co-Firing; Landfill Gas

Competitive Landscape

The source characterises the market as moderately fragmented, with competition increasingly shaped by sustainability, digitalisation, supply-chain reliability and technology. Companies discussed include Drax Group, Enviva, Green Plains, Pinnacle Renewable Energy, RWE, Vattenfall, Fortum, Bioenergy Infrastructure Group and A2A.

Company	Country identified in source
Drax Group	United Kingdom
Enviva	United States
Green Plains	United States
Pinnacle Renewable Energy	Canada
RWE	Germany
Vattenfall	Sweden
Fortum	Finland
Bioenergy Infrastructure Group	United Kingdom
A2A	Italy

Recent Industry Developments

- October 2023: Indian Oil Corporation announced plans to increase biomass utilisation in response to the government's clean-energy push.
- Bharat Heavy Electricals Limited has focused on biomass-based power-generation technologies intended to improve efficiency.
- Renew Power and Adani Green Energy are cited as collaborating on biomass power plants to expand renewable-energy portfolios.
- September 2023: KPI Global Infrastructure and Orient Green Power Company announced a strategic partnership to strengthen biomass production capabilities.
- May 2022: Sugenja Biomass Energy launched projects using agricultural waste for electricity production.

Future Outlook

The report projects continued market expansion through 2035, supported by energy demand and government initiatives. It identifies advanced biomass gasification, stronger rural biomass supply chains and investment in waste-to-energy conversion facilities as important areas of future opportunity.

- Development of advanced biomass gasification technologies.
- Expansion of biomass supply chains for rural energy access.
- Investment in biomass waste-to-energy conversion facilities.