

# **Agri Waste-to-Value Solutions Market Forecasts to 2034 – Global Analysis By Conversion Type (Anaerobic Digestion Systems, Biomass Gasification Technologies, Composting & Vermicomposting Systems, Biofuel Production Technologies (Ethanol, Biodiesel), Pyrolysis & Biochar Production Systems, Waste-to-Energy Conversion Systems, Nutrient Recovery & Recycling Technologies), Policy, Waste Type, Application, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Agri Waste-to-Value Solutions Market is accounted for \$28.4 billion in 2026 and is expected to reach \$72.8 billion by 2034 growing at a CAGR of 12.4% during the forecast period. Agri waste-to-value solutions refer to technologies and integrated systems that convert agricultural biomass residues, crop processing byproducts, livestock manure, food processing waste streams, and agro-industrial effluents into commercially valuable outputs including biogas, biofuels, organic fertilizers, biochar, animal feed, bio-based chemicals, and renewable energy through anaerobic digestion, gasification, pyrolysis, composting, fermentation, and nutrient recovery processes that simultaneously address agricultural waste management challenges and circular bioeconomy value creation objectives.

Market Dynamics:

Driver:

Circular Bioeconomy Policy Push

Government circular bioeconomy policy frameworks and mandatory agricultural waste management regulations across European Union member states, the United States, and major Asian economies are compelling agricultural producers and agri-food processors to implement waste valorization solutions that convert previously disposed biomass residues into revenue-generating products while achieving regulatory compliance for waste reduction and sustainability reporting obligations. Carbon credit monetization from biogas and biochar production is creating additional revenue incentives for agri waste-to-value investment.

Restraint:

#### Feedstock Collection Logistics

Agricultural waste feedstock collection and aggregation logistics challenges create substantial operational cost and supply reliability barriers for agri waste-to-value facilities requiring consistent high-volume biomass input streams from geographically dispersed farm operations with seasonal production variability that complicates year-round facility utilization and investment return calculation for project developers and infrastructure financiers evaluating agri waste valorization project economic viability.

Opportunity:

#### Biochar Carbon Credit Market

Biochar production from agricultural biomass pyrolysis represents an emerging high-value revenue opportunity as regulated and voluntary carbon markets develop standardized biochar carbon removal credit verification methodologies enabling pyrolysis facility operators to generate premium-priced carbon sequestration certificates from agricultural waste conversion that substantially improve project economics beyond commodity biochar soil amendment product revenue alone.

Threat:

#### Competing Renewable Energy Economics

Rapidly declining solar and wind energy generation costs are reducing the competitive advantage of biogas and biomass energy generation relative to conventional renewable alternatives in electricity market applications, potentially constraining agri waste-to-value

energy projects that depend on energy revenue streams for economic viability while increasing market dependence on higher-value biochemical and biofertilizer product revenues that require more sophisticated processing and market development investment.

#### Covid-19 Impact:

COVID-19 supply chain disruptions exposed agricultural waste management system vulnerabilities and generated policy attention toward circular agricultural resource utilization as a food system resilience strategy. Pandemic-era fertilizer supply chain disruptions accelerated interest in organic nutrient recovery from agricultural waste as domestic fertilizer production alternatives. Post-pandemic green recovery investment programs across Europe and Asia are channeling substantial public funding toward agri waste-to-value infrastructure development.

The pyrolysis & biochar production systems segment is expected to be the largest during the forecast period

The pyrolysis & biochar production systems segment is expected to account for the largest market share during the forecast period, due to growing commercial deployment of agricultural biomass pyrolysis facilities driven by combined biochar soil amendment product revenue and emerging carbon removal credit monetization opportunities that provide pyrolysis operators with multiple value streams generating superior project economics compared to single-product waste valorization alternatives. European and North American carbon market development is accelerating biochar facility investment decisions.

The subsidy-driven segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the subsidy-driven segment is predicted to witness the highest growth rate, driven by expanding government agricultural waste management subsidies, renewable energy feed-in tariff programs, and circular economy transition support mechanisms across European Union, United States, India, and China policy environments that are making previously marginal agri waste-to-value projects financially viable through direct investment incentives, tax credits, and guaranteed revenue support mechanisms.

#### Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the United States implementing substantial agricultural biomass energy and nutrient recovery programs supported by USDA Rural Energy for America Program funding, state-level renewable portfolio standards creating biogas demand, and large concentrated animal feeding operation waste management regulatory requirements driving substantial anaerobic digestion infrastructure investment across the agricultural sector.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to enormous agricultural waste volumes from rice, sugarcane, palm oil, and livestock production across China, India, Indonesia, and Vietnam creating large addressable waste valorization feedstock pools, combined with growing government bioeconomy development investment programs and expanding domestic renewable energy demand driving agri waste conversion technology adoption.

Key players in the market

Some of the key players in Agri Waste-to-Value Solutions Market include Veolia Environnement S.A., Suez S.A., ENGIE S.A., Valmet Oyj, Babcock & Wilcox Enterprises Inc., Covanta Holding Corporation, Hitachi Zosen Corporation, John Wood Group PLC, EnviTec Biogas AG, Orsted A/S, Tetra Tech Inc., Waste Management Inc., Ramboll Group A/S, Siemens Energy AG, ABB Ltd., GEA Group AG, and Clarke Energy.

Key Developments:

In February 2026, Veolia Environnement S.A. launched an integrated agri waste valorization platform combining anaerobic digestion, nutrient recovery, and biochar production for large European agri-food processing facility clients.

In January 2026, EnviTec Biogas AG secured a major contract to develop and operate agricultural biogas facilities across three Southeast Asian countries under long-term power purchase and biomethane offtake agreements with government utilities.

In November 2025, GEA Group AG introduced a modular digestate nutrient recovery system enabling dairy and pig farm operators to convert anaerobic digestion outputs

into concentrated organic fertilizer products for commercial agricultural markets.

#### Conversion Types Covered:

- Anaerobic Digestion Systems
- Biomass Gasification Technologies
- Composting & Vermicomposting Systems
- Biofuel Production Technologies (Ethanol, Biodiesel)
- Pyrolysis & Biochar Production Systems
- Waste-to-Energy Conversion Systems
- Nutrient Recovery & Recycling Technologies

#### Policies Covered:

- Subsidy?Driven
- Carbon Credit?Linked
- Waste?Levy
- PPP (Public–Private Partnership) Based Models

#### Waste Types Covered:

- Crop Residues
- Animal Waste
- Food Processing Waste
- Agricultural By-products

## Organic Municipal Waste

### Applications Covered:

Bioenergy Generation

Organic Fertilizer Production

Animal Feed Production

Soil Enhancement & Biochar Applications

Industrial Raw Material Recovery

### End Users Covered:

Farmers & Agricultural Producers

Food Processing Companies

Energy Producers

Waste Management Companies

Government & Municipal Bodies

### 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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