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Waste-to-Energy Market Forecasts to 2032 – Global Analysis By Waste Type (Municipal Solid Waste (MSW), Industrial Waste, Agricultural Waste, Medical Waste, and Other Waste Types), Feedstock, Capacity, Technology, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Waste-to-Energy Market is accounted for $39.13 billion in 2025 and is expected to reach $60.80 billion by 2032 growing at a CAGR of 6.5% during the forecast period. Waste-to-Energy (WtE) refers to the process of generating energy in the form of electricity or heat from the treatment of waste materials. It involves converting non-recyclable waste into usable energy through various technologies such as combustion, gasification, pyrolysis, or anaerobic digestion. This approach not only helps reduce landfill waste but also provides a sustainable alternative energy source, contributing to environmental protection and resource efficiency.

According to the International Energy Agency, in 2024, biofuels represented approximately 3.5% of global transport energy demand, especially for road transport.

Market Dynamics:

Driver:

Increasing waste generation & limited landfill space

Many cities are running out of viable space for waste disposal, intensifying the need for alternative waste management solutions. Waste-to-energy (WTE) technologies offer a sustainable method to convert waste into usable energy, reducing environmental

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burden and landfill dependency. Governments are encouraging WTE adoption through policy incentives and strict landfill reduction mandates. The increasing cost of landfill maintenance and environmental compliance further supports this shift. Consequently, the expanding waste volumes and limited landfill availability are major drivers propelling the WTE market's growth.

Restraint:

Lack of adequate waste segregation

Mixed waste streams reduce combustion efficiency and increase operational costs for energy recovery plants. The absence of standardized segregation systems at the source often leads to contamination, impacting both energy yield and equipment performance. Many developing regions lack public awareness and infrastructure for effective separation of recyclables, organics, and hazardous waste. This inefficiency hinders technological optimization and raises environmental concerns. Hence, insufficient segregation practices continue to restrain the full potential of WTE deployment across various regions.

Opportunity:

Advancements in WTE technologies

The advanced technologies enhance energy recovery rates while minimizing greenhouse gas emissions. Integration with digital monitoring, AI-driven plant management, and emission control solutions is further improving operational efficiency. The development of modular and small-scale WTE plants is enabling decentralized energy generation, especially in urban and industrial areas. Additionally, advancements in materials and combustion technologies are reducing maintenance costs and extending plant lifespan. As sustainability goals tighten globally, technological progress is unlocking new growth opportunities in the WTE market.

Threat:

Risk of disincentivizing recycling/reduction

Overreliance on incineration could divert recyclable materials into energy recovery processes, undermining circular economy objectives. Critics argue that WTE plants require a consistent waste supply, potentially disincentivizing efforts to minimize waste

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generation. Policymakers are therefore balancing energy recovery goals with recycling mandates to prevent such conflicts. Public perception and policy alignment are crucial to ensuring that WTE complements, rather than competes with, recycling programs. Without careful regulation, this risk could hinder the long-term sustainability of waste management systems.

Covid-19 Impact:

The COVID-19 pandemic significantly affected waste generation patterns and energy recovery operations worldwide. Lockdowns led to surges in medical and household waste, challenging existing collection and disposal systems. Many WTE facilities faced disruptions due to labor shortages and logistical constraints. However, the crisis highlighted the importance of resilient waste management infrastructure to ensure environmental safety. Post-pandemic, the sector is expected to emphasize sustainability, worker safety, and technology integration for future preparedness.

The municipal solid waste (MSW) segment is expected to be the largest during the forecast period

The municipal solid waste (MSW) segment is expected to account for the largest market share during the forecast period, due to its high availability and consistent generation across urban centers. Rapid urbanization and industrialization are producing massive volumes of MSW, creating strong demand for energy recovery solutions. Governments are implementing policies to divert municipal waste from landfills toward energy conversion. WTE plants using MSW help reduce greenhouse gas emissions while producing renewable electricity and heat. The integration of smart sorting and pre-treatment technologies is enhancing MSW conversion efficiency.

The commercial sector segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the commercial sector segment is predicted to witness the highest growth rate. Increasing waste output from offices, retail complexes, and hospitality facilities is creating significant opportunities for localized energy recovery. Businesses are adopting WTE solutions to meet corporate sustainability goals and reduce waste disposal costs. Technological advancements in compact and modular WTE units make them ideal for commercial settings. Additionally, regulatory pressures for zero-waste operations are driving adoption in this segment.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share. Rising urban populations and economic growth are driving substantial increases in waste generation across countries like China, India, and Japan. Governments in the region are prioritizing WTE projects as part of their sustainable development and energy diversification plans. Large-scale infrastructure investments and favorable regulations are further supporting market expansion. Collaborations between local authorities and international technology providers are enhancing plant efficiency and operational standards.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR, owing to technological leadership and strong policy support. The U.S. and Canada are increasingly integrating WTE into circular economy frameworks and renewable energy strategies. Advanced technologies such as plasma gasification and AI-based process optimization are enhancing energy recovery and emission control. Government incentives and carbon reduction targets are further stimulating investment in new WTE projects. Growing emphasis on sustainable waste management and landfill diversion is also propelling market growth.

Key players in the market

Some of the key players in Waste-to-Energy Market include Veolia, SUEZ, Covanta, Hitachi Zo, Babcock &, Keppel Se, Enerkem, CNIM, Mitsubishi, Doosan Le, Thermax, MARTIN G, Wheelabr, Sembcorp, and Acciona.

Key Developments:

In October 2025, TotalEnergies and Veolia have signed a memorandum of understanding for further cooperation in several key areas of energy transition and circular economy, in line with their respective approaches to reduce their greenhouse gases emissions and water footprint. This cooperation will benefit the entire industry through the scaling up of innovative processes and the advancement of research into future-oriented challenges.

In April 2025, Mitsubishi Electric Corporation announced that it has acquired all shares of Ascension Lifts Limited, an Irish elevator company based in Dublin, through its wholly

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owned subsidiary Motum AB, headquartered in Stockholm, Sweden. Mitsubishi Electric and its Tokyo-based subsidiary Mitsubishi Electric Building Solutions Corporation are expanding their worldwide business in elevator maintenance and renewal, which is expected to enjoy growing demand in the building systems sector, one of Mitsubishi Electric's priority growth businesses.

Waste Types Covered:

- Municipal Solid Waste (MSW)
- Industrial Waste
- Agricultural Waste
- Medical Waste
- Other Waste Types

Feedstocks Covered:

- Organic Waste
- Plastic Waste
- Paper and Cardboard
- Rubber and Textiles
- Mixed Waste

Capacities Covered:

- Small-Scale Plants (oO50 MW)
- Medium-Scale Plants (50–250 MW)
- Large-Scale Plants (>250 MW)

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Technologies Covered:

- Thermal Technologies
- Biochemical Technologies
- Other Emerging Technologies

Applications Covered:

- Electricity Generation
- Combined Heat and Power (CHP)
- Heat Generation
- Transportation Fuel
- Other Applications

End Users Covered:

- Residential Sector
- Industrial Sector
- Commercial Sector
- Utilities and Energy Providers
- Other End Users

Regions Covered:

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North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

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Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & 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 2024, 2025, 2026, 2028, and 2032
- 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:

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- 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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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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