

Waste-to-Energy (WtE) - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2020 - 2029

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Report description:

The Waste-to-Energy Market size is estimated at USD 58.40 billion in 2024, and is expected to reach USD 83.25 billion by 2029, growing at a CAGR of 7.35% during the forecast period (2024-2029).

Key Highlights

- Over the medium term, factors such as increasing amount of waste generation and growing concern for waste management to meet the need for sustainable urban living, and increasing focus on non-fossil fuel sources of energy are driving the demand for the waste-to-energy market.
- On the other hand, the expensive nature of incinerators, particularly as energy prices decline and several plants are unable to cover operating costs. This poses a threat to the waste-to-energy market during the forecast period.
- Nevertheless, emerging waste-to-energy technologies, such as Dendro Liquid Energy (DLE), which is four times more efficient in terms of electricity generation, with additional benefits of no emission discharge and effluence problems at plant sites, are expected to create significant opportunities for the market players, over the coming years.
- Asia-Pacific is expected to dominate the market across the world, with the majority of demand coming from the countries such as China, India, and Japan.

Waste to Energy (WTE) Market Trends

Thermal-based Waste-to-Energy Segment to Dominate the Market

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- Thermal technology is expected to account for the highest market share in the waste-to-energy market during the forecast period, owing to the increasing development of waste incineration facilities across the world.
- It is estimated that plants that utilize thermal power cogeneration (heating and cooling) and electricity generation can reach optimum efficiencies of 80%. According to the International Renewable Energy Agency, the global bioenergy capacity accounted for 148.9 GW in 2022, with an annual growth rate of 5.3% compared to the previous year.
- In the present scenario, incineration is the most well-known waste-to-energy technology for municipal solid waste (MSW) processing. However, waste-to-energy technologies, particularly incineration, produce pollution and carry potential health safety risks. To reduce particulate and gas-phase emissions, incineration plant owners have adopted a series of process units for cleaning the flue gas stream, which has, in turn, led to a significant improvement in environmental sustainability.
- In February 2022, Solvay and Veolia began constructing a cogeneration unit to provide renewable energy for France's Dombasle-sur-Meurthe soda ash production plant by replacing coal with refuse-derived fuel (RDF). The project entails replacing three coal-fired boilers with a boiler room outfitted with two furnaces that run on RDF, made of previously stored non-hazardous waste.
- The thermal-based waste-to-energy conversion is expected to lead the market, especially in Asia-Pacific's growing economies, where the rising urban population is projected to be the key contributing factor to increasing municipal solid waste (MSW).

Asia-Pacific to Dominate the Market

- Asia-Pacific witnessed significant development in the waste-to-energy industry in the past few years. It has dominated the market across the world with increasing efforts taken by the government to adopt better municipal solid waste (MSW) management practices, providing incentives for waste-to-energy projects in the form of capital subsidies and feed-in tariffs and financial support for R&D projects on a cost-sharing basis.
- Due to economic development and rapid urbanization in China, the generation of municipal solid waste (MSW) has increased rapidly. Therefore, the effective disposal of municipal solid waste has become a serious environmental challenge in China.
- In December 2022, the Minister of Urban Local Bodies (ULB) inaugurated work on the country's largest waste-to-energy (WTE) plant in Gurugram. Ecogreen Energy, a waste management concessionaire, plans to build a 25-MW waste-to-energy facility on 10 acres of property in Bandhwadi.
- Japan has been one of the leading markets for waste-to-energy in Asia-Pacific. The country's waste-to-energy market is driven by efficient solid waste management and financial support for waste-to-energy projects from both national and local governments. The country is expected to introduce waste management and recycling technologies to preserve the environment, effectively turning waste into resources or appropriately disposing of it.
- Therefore, factors such as the increasing amount of waste generated and the efforts taken by various governments to tackle this situation are expected to boost the demand for waste-to-energy plants in Asia-Pacific during the forecast period.

Waste to Energy (WTE) Industry Overview

The waste-to-energy (WtE) market is semi-fragmented. Some of the major players operating in this market (in no particular order) include Mitsubishi Heavy Industries Ltd, Waste Management Inc., A2A SpA, Veolia Environnement SA, and Hitachi Zosen Corp.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

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1 INTRODUCTION

1.1 Scope of the Study

1.2 Market Definition

1.3 Study Assumptions

2 EXECUTIVE SUMMARY

3 RESEARCH METHODOLOGY

4 MARKET OVERVIEW

4.1 Introduction

4.2 Market Size and Demand Forecast, in USD, till 2028

4.3 Municipal Solid Waste (MSW) Generation, in billion metric ton, till 2028

4.4 Government Policies and Regulations

4.5 Recent Trends and Developments

4.6 Market Dynamics

4.6.1 Drivers

4.6.1.1 Increasing Amount of Waste Generation, Growing Concern for Waste Management to Meet the Needs for Sustainable Urban Living

4.6.1.2 Increasing Focus on Non-fossil Fuel Sources of Energy

4.6.2 Restraints

4.6.2.1 Expensive Nature of Incinerators

4.7 Supply Chain Analysis

4.8 Porter's Five Forces Analysis

4.8.1 Bargaining Power of Suppliers

4.8.2 Bargaining Power of Consumers

4.8.3 Threat of New Entrants

4.8.4 Threat of Substitutes Products and Services

4.8.5 Intensity of Competitive Rivalry

5 MARKET SEGMENTATION

5.1 Technology

5.1.1 Physical

5.1.2 Thermal

5.1.3 Biological

5.2 Geography (Regional Market Analysis {Market Size and Demand Forecast till 2028 (for regions only)})

5.2.1 North America

5.2.1.1 United States

5.2.1.2 Canada

5.2.1.3 Rest of the North America

5.2.2 Asia-Pacific

5.2.2.1 China

5.2.2.2 India

5.2.2.3 Japan

5.2.2.4 Rest of the Asia-Pacific

5.2.3 Europe

5.2.3.1 United Kingdom

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- 5.2.3.2 France
- 5.2.3.3 Germany
- 5.2.3.4 Italy
- 5.2.3.5 Rest of the Europe
- 5.2.4 Middle East and Africa
 - 5.2.4.1 United Arab Emirates
 - 5.2.4.2 Saudi Arabia
 - 5.2.4.3 South Africa
 - 5.2.4.4 Rest of Middle East and Africa
- 5.2.5 South America
 - 5.2.5.1 Brazil
 - 5.2.5.2 Argentina
 - 5.2.5.3 Rest of South America

6 COMPETITIVE LANDSCAPE

- 6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements
- 6.2 Strategies Adopted by Leading Players
- 6.3 Company Profiles
 - 6.3.1 Mitsubishi Heavy Industries Ltd
 - 6.3.2 Waste Management Inc.
 - 6.3.3 A2A SpA
 - 6.3.4 Veolia Environnement SA
 - 6.3.5 Hitachi Zosen Corp
 - 6.3.6 MVV Energie AG
 - 6.3.7 Martin GmbH
 - 6.3.8 Babcock & Wilcox Enterprises Inc.
 - 6.3.9 China Jinjiang Environment Holding Co. Ltd
 - 6.3.10 Suez Group
 - 6.3.11 Xcel Energy Inc.
 - 6.3.12 Wheelabrator Technologies Holdings Inc.
 - 6.3.13 Covanta Holding Corp.
 - 6.3.14 China Everbright Group

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

- 7.1 Emerging Waste-to-Energy Technologies, such as Dendro Liquid Energy (DLE)

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