

Global Biosolids Market Size by Growth Rate, Business Challenges, Competitors, and Forecast 2033 | Emergen Research

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VANCOUVER, BRITISH COLUMBIA, CANADA, January 18, 2025 /EINPresswire.com/ -- The <u>Biosolids</u> <u>market</u> is poised for substantial growth, with an expected increase from USD 2.54 billion in 2024 to USD 4.01 billion by 2033, representing a compound annual growth rate (CAGR)



of 5.2%. This growth is fueled by rising demand for sustainable waste management solutions and the expanding use of biosolids across various industries.

Biosolids, a byproduct of wastewater treatment, are being increasingly utilized in sectors like construction, transportation, agriculture, and even healthcare. In construction, biosolids are used as a material for insulation, while in the transportation industry, they serve as engine coolant and de-icing agents. Additionally, biosolids are important in chemical industries, acting as solvents, heat transfer mediums, and chemical intermediaries. Their versatility is contributing to the market's upward trajectory.

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Growing Applications and Product Grades

Biosolids are generally manufactured in two primary grades: USP/EP (United States Pharmacopeia/European Pharmacopoeia) grade and industrial or technical grade. The industrialgrade biosolids are used in industries such as paper, petroleum, and sugar refining, where they help produce non-ionic detergents. They are also used in paint and varnish production to improve their freeze-thaw stability.

On the other hand, the USP/EP grade biosolids are employed as excipients in pharmaceuticals, as well as in food and cosmetic products. These biosolids are recognized for their low toxicity, which contributes to their safety and widespread use. However, some individuals may experience allergic reactions, such as dermatitis and rashes. In rare cases, high dosages can cause irregular heart rhythms, posing a potential barrier to further market growth.

Sustainable Waste Management Driving Market Growth

One of the key drivers for the biosolids market is the growing emphasis on sustainable waste management. Governments and businesses worldwide are increasingly focusing on eco-friendly solutions for waste disposal. Biosolids can be converted into valuable products like fertilizers, soil conditioners, and bioenergy, reducing landfill waste and promoting sustainability.

The agricultural industry, in particular, benefits from biosolids due to their nutrient-rich composition. They serve as a sustainable alternative to chemical fertilizers, aligning with the global push for sustainable farming practices. Moreover, advancements in treatment technologies are enhancing the quality and safety of biosolids, further driving demand.

Innovation in Production and Green Solutions

In a bid to lower greenhouse gas emissions and minimize environmental impact, GreenGlycols[®] Green Glycols B.V. and Ethos Asset Management Inc. have announced a project to construct a new BioMPG production facility in the Netherlands. This facility will produce USP-grade biosolids using renewable biomass sources such as corn and soy, reducing CO2 emissions by up to 280,000 tons annually. Scheduled for commercial production in 2025, the facility aims to meet the growing demand for propylene glycol (PG), a key chemical that biosolids help produce.

Market Challenges

Despite the promising growth prospects, the biosolids market faces several challenges. High treatment and processing costs are a major concern. The management of biosolids involves energy-intensive processes such as thickening, digestion, dewatering, and stabilization, requiring specialized equipment and skilled labor. These costs can be a barrier for smaller municipalities and businesses with limited resources, hindering widespread adoption.

Furthermore, the disposal of treated biosolids comes with significant expenses, whether through methods like incineration, composting, or land application. Stricter global waste disposal regulations are forcing companies to invest in technologies to ensure safe and compliant disposal practices, further raising costs.

Market Segmentation and Insights

The biosolids market is segmented into three main types: Class A, Class A EQ (Exceptional Quality), and Class B. In 2023, Class A biosolids led the market, as they are highly treated and safe to use in agricultural and landscaping applications. These biosolids meet strict pathogen and pollutant reduction standards through processes like heat drying, composting, and pasteurization.

Class A EQ biosolids are gaining traction, growing at the fastest rate in the market. These biosolids meet even more stringent safety and handling standards, making them suitable for unlimited use, including residential and agricultural applications. As consumers increasingly demand environmentally friendly and sustainable fertilizers, the adoption of Class A EQ biosolids is expected to rise significantly.

The biosolids market is on a strong growth trajectory, driven by the need for sustainable waste management and the diverse applications of biosolids in industries such as construction, transportation, agriculture, and healthcare. As technological advancements improve the quality and safety of biosolids, their demand is expected to continue rising. However, challenges such as high treatment costs and stringent disposal regulations must be addressed for broader adoption.

In September 2023, Burch Hydro Inc., a leading provider of biosolids and lime-residuals management and land application with headquarters in Ohio, was purchased by Synagro Technologies Inc., a company that offers biosolids and residual solutions.

Some of the key companies in the global Biosolids market include:

Agrivert Ltd Aguas Andinas SA Alan Srl Allevi Srl BCR Environmental C.R.E. - Centro di Ricerche Ecologiche Cambi ASA Casella Waste Systems Inc. Cleanaway DC Water Eco-trass Englobe

Biosolids Latest Industry Updates

In May 2023, A deal was announced by Cambi and the San Francisco Public Utilities Commission (SFPUC) to install three thermal hydrolysis systems at the Southeast Treatment Plant in San Francisco as part of the Biosolids Digester Facilities Project. The Southeast Treatment Plant is the largest wastewater treatment plant in the city, and the SFPUC is spending more than USD 3 billion to repair and upgrade it. A larger citywide sewer system improvement program includes this project.

In December 2023, The Pottstown Borough Authority awarded a 10-year sludge hauling contract to J. P. Mascaro & Sons. Mascaro's Berks County Division is anticipated to fulfill the contract, and Mascaro is in charge of transporting and getting rid of all biosolids produced at the wastewater treatment facility run by the Pottstown Borough Authority.

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Biosolids Market Segmentation Analysis

By Type Outlook (Revenue, USD Million; 2020-2033)

Class A Class A EQ Class B

By Form Outlook (Revenue, USD Million; 2020-2033)

Cakes Liquid Pellet

By Application Outlook (Revenue, USD Million; 2020-2033)

Agriculture Land Application Non-Agriculture Land Application Energy Recovery Energy Production

By Geography Outlook (Revenue, USD Million; 2020-2033)

North America United States Canada Mexico Europe Germany France

United Kingdom Italy Spain Benelux **Rest of Europe** Asia-Pacific China India Japan South Korea **Rest of Asia-Pacific** Latin America Brazil Rest of Latin America Middle East and Africa Saudi Arabia UAE South Africa Turkey **Rest of MEA**

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