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Biowaste AD market is growing in Europe

Until 2030, ecoprog expects about 8.1 million annual tons of additional capacity to be built for the fermentation of municipal biowaste. AD capacities for treating commercial biowaste will be developed as well. The main reasons for this growth are EU regulation stipulating a separate biowaste collection from 2024 onwards as well as the booming biomethane market. The new ecoprog report on the European biowaste AD plant market describes this and other developments in detail.

Today, there are approximately 960 active biowaste AD (anaerobic digestion) plants in Europe. These are biogas plants that mainly treat organic waste from household collection schemes and from commercial sources. The latter particularly includes companies from the food and feed industries, from restaurants or trade. We estimate about 500 of these plants to primarily treat commercial biowaste and about 370 to mainly process separately collected municipal waste. Approximately 90 biowaste AD plants are active at sites of mechanical biological treatment (MBT) facilities; they treat biowaste that was collected as part of residual waste. In many countries, it is not always possible to unambiguously classify biowaste AD plants as facilities for commercial or municipal waste.

ecoprog estimates the input of all biowaste AD plants to amount to about 46 million annual tons. About 27.5 million annual tons of this are treated in biowaste AD plants for commercial biowaste and 14.2 million annual tons in biowaste AD plants for municipal waste. Biowaste AD plants at MBT sites treat 4.4 million tons annually.

Our report focuses on the municipal plants, for which we expect another 8.1 million annual tons to be constructed until 2030. This will be complemented by further potentials, especially in the commercial waste sector. In early 2022, ecoprog was aware of a total of about 250 biowaste AD projects in Europe, and 75 of those had a focus on commercial waste.

There are two main drivers for this market growth. EU waste legislation is the first driver, stipulating that all biowaste in the EU must be collected separately from 2024 onwards. Furthermore, according to the EU Waste Framework Directive, which was amended in 2018, at least 55% of the municipal waste must be recycled until 2025. This goal will increase to 60% until 2030 and to 65% until 2035. In almost all EU member states, improving the household collection scheme for organic waste is one of the most important instruments to reach these recycling goals.

The second main driver is the EU policy for increasing the use of renewable energies. Biomethane (which is biogas that was upgraded so that it is of the same quality as natural gas) plays a very important role for this. In the past, biogas was mainly used to generate electricity. In recent years, however, biomethane has become more important as a fuel and on the heat market, where there are only limited alternatives to fossil sources (contrary to the situation on the electricity market) – a situation that is even more evident now, in times when natural gas costs are increasing due to the war in Ukraine.



The boom of municipal biowaste AD plants will also affect plant technology: in the future, ecoprog expects a clearer distinction between the fermentation of municipal biowaste and of commercial biowaste. This will be a result of the increasing number of municipal projects but also of tighter technical requirements for the fermentation process, e.g., when it comes to downstream composting of fermentation residues or the share of impurities in a plant's output.

The report "The Market for Biowaste AD in Europe" can now be ordered online at: www.ecoprog.com

As a respected industry expert, Germany-based consulting company ecoprog accompanies clients from Germany and abroad in dealing with implementation-oriented management issues in environmental and energy technology sectors. We focus on strategy consulting, market, and competition analyses as well as multi-client studies.