

Scale-up of low-carbon footprint MAterial Recovery Techniques in existing wastewater treatment PLANTs

AgRobics Advanced Anaerobic Technology saves valuable resources in municipal wastewater treatment.

For the last one-hundred years, the municipal wastewater treatment process has been plagued by two main problems:

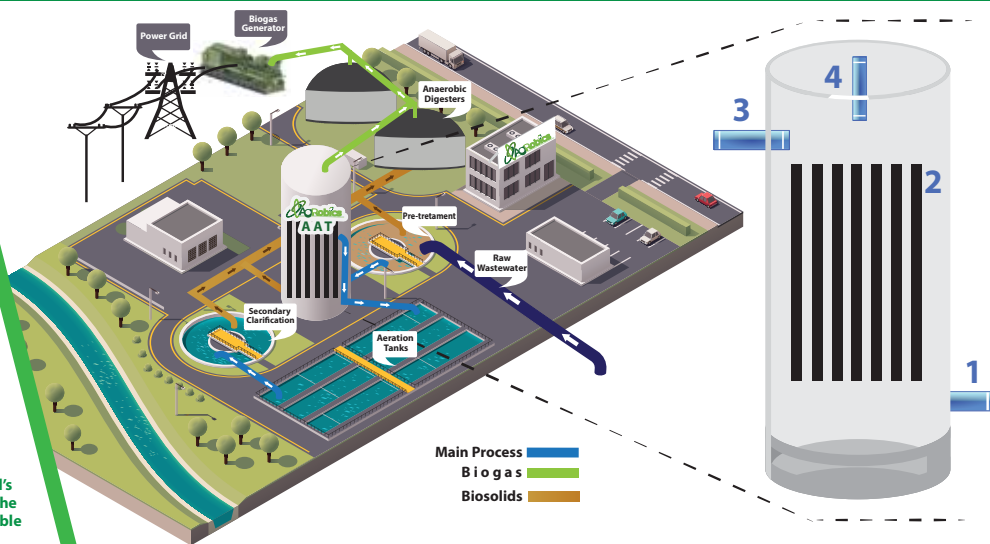
1. High energy use due to aeration of the wastewater to enable the aerobic breakdown of organic matter (up to 35% of the operating costs of a wastewater treatment plant). The byproducts of this treatment phase are CO₂ and sewage sludge.

2. High costs related to the treatment and disposal of excess sewage sludge (up to 20% of the operating costs)

Both of these issues together are the main reason why wastewater treatment today is a resource intensive treatment process, which can use up to 3% of a nation's total energy production.

Due to the unique characteristics of the AgRobics patented polymeric matrix (fixed media), the Advanced Anaerobic Treatment (AAT) developed by AgRobics is a stable, High Rate Anaerobic Process (HRAP) that increases process stability, lowers operational cost and enhances the efficiency of the anaerobic process for methane production by cutting down on energy use, sludge volumes and producing renewable energy.

Together with investor and longtime partner, Mekorot, Israel's national water company, AgRobics has fine-tuned AAT for the municipal wastewater market drastically saving valuable resources.



Process flow:

1. Primary treated wastewater enters the AAT reactor via a unique distribution manifold.
2. Wastewater flow upwards through the patented AgRobics polymeric matrix (fixed media), where the anaerobic processes, hydrolysis, acetogenesis and methanogenesis take place.
3. Treated effluent exits the reactor for further nutrient removal and polishing.
4. Methane rich biogas exits the top of the reactor to be utilized for renewable energy and heat generation.

AAT Advantages for municipal wastewater treatment



20 - 30% less energy consumption



25% More biogas for renewable energy generation and heat



10-15% less sludge for disposal



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