

# Reducing emissions and generating renewable energy from municipal sewage sludge

Marijampolė Wastewater Treatment Works, Lithuania

With a population of about 45,000, Marijampolė is the seventh largest city in Lithuania. One of its top environmental priorities is to protect the community's water supply, prevent pollution and contribute on the whole to a more sustainable future.

To meet increasingly strict environmental requirements, the municipality of Marijampolė began to modernize its wastewater treatment systems. Its recent purchase of Xylem secondary treatment equipment included 18 submersible Flygt mixers, two blowers and several pumps.

Next on the agenda: Upgrading its anaerobic digestion facility, which will feature ATEX-approved Flygt top entry agitators (TEAs) for cost-effective, reliable operations. These agitators will ensure regulatory compliance, reducing greenhouse gas emissions and providing renewable energy for the community.

**"These highly efficient top entry agitators will play a major role in environmental compliance at our large-scale anaerobic digestion facility."**

– Antanas Navickas, Director of treatment plants, Marijampolė Wastewater Treatment Works

## Cost-effective performance

To better manage wastewater and ultimately improve the environment, Marijampolė wastewater authorities consulted with Xylem experts to modernize its secondary treatment system and produce biogas from municipal sewage sludge as part of the plant's integrated anaerobic digestion process.

Xylem Lithuania recommended the installation of two Flygt top-entry agitators in the plant's existing anaerobic digestion chambers. These will help maximize anaerobic digester performance as well as produce biogas, energy for use as electricity, heating or vehicle fuel, and usable residual product, such as nutrient-rich fertilizer for agricultural use.

## Hygienic operations

Flygt top-entry agitators combine dry-installed drives with submersed shaft and impellers for ease of service. There is no need to enter the chamber to conduct maintenance. All service points are within easy reach from above.



## XYLEM SUPPLY FOR MARIJAMPOLÉ:

- Two Flygt top entry agitators SY4860.090
- Eight Flygt 4430 mixers
- Eight Flygt 4650 mixers
- Two Flygt 4630 mixers
- Lowara SV and DXM pumps
- Two blowers

## ENVIRONMENTALLY SUSTAINABLE OPERATIONS:

Because sustainability is high on the municipal agenda, the city of Marijampole found the energy efficiency and emissions-safe operation of the agitators appealing. The three-blade hydrofoil impellers, for instance, handle high flow rate and require less electricity than most anaerobic digesters. Another example: the agitator's wear-proof water lock, which prevents the leakage of potentially harmful gases to the atmosphere.

These features reflect the inherent potential of Flygt top-entry agitators and their ability to help mitigate the effects of climate change, turn waste into a valuable resource and increase overall plant sustainability.

