



## How Monza WWTP Increased Biogas Production by 40% While Reducing Operating Costs



### Background & Challenge

Monza WWTP, operated by BrianzAcque, is a large **municipal treatment plant** serving 600,000 population equivalent, including significant industrial inflows.

The site operates **anaerobic digestion** but faced variable biogas production, high polymer consumption, and elevated return loads impacting overall plant performance.

The challenge was to **improve sludge quality** and **digestion efficiency** while reducing operating costs and ensuring stable performance under **variable sludge** conditions.

### Orege's Solution & Service

Orege deployed its **SLG-based conditioning** and **thickening solution** across two treatment lines, designed to improve sludge quality upstream of digestion.

The objective was to **enhance solids capture**, **optimize polymer use**, and **stabilize** the overall **sludge** treatment process.

The solution was implemented as a full-scale installation, providing operational flexibility across a wide range of flow conditions while integrating seamlessly into existing plant infrastructure.





## Results and Benefits

Orege's solution delivered significant improvements across key performance indicators.

**Thickened sludge** concentration increased by approximately **70%**, improving feed quality to digestion and enhancing overall process efficiency.

At the same time, **polymer dosage was reduced by 25–45%**, generating substantial operating cost savings while maintaining strong solids capture and treatment performance.

**Filtrate quality** also improved, reducing return loads to the biological stage.

These combined effects translated into a major increase in energy recovery, with **biogas production rising by up to 40%**.

Overall, the project demonstrated that optimizing sludge conditioning upstream of digestion can simultaneously improve performance, reduce costs, and unlock additional energy value, while maintaining operational flexibility.



“We worked closely together and were very satisfied with the gains in efficiency and biogas production.”

Luca PEDRAZZI, Director of Wastewater Treatment,  
Sewer Services & Industrial Control - BrianzAcque