



ORGANICA REMOVES BARRIER FOR MAJOR ECONOMIC DEVELOPMENT

Municipal Wastewater Treatment – Etyek, Hungary

CHALLENGE

The town of Etyek, situated just outside of Budapest, was facing an inevitable infrastructure upgrade with a wastewater treatment plant overloaded from increased tourism and wine production in the area. When the construction of Korda Studios, one of the biggest movie studios in Europe, was proposed in the town, plans were stalled due to the area's insufficient wastewater treatment capacity. As part of their plans, the studio was to include a 6,000 square-meter Superstage, convertible to the world's largest indoor water tank (at 3,700 square meters). With fluctuating influent characteristics (high seasonal BOD from wine processing and large hydraulic spikes), and limitations on new development, Etyek needed a new wastewater solution that increased capacity and flexibility. Further, a compact footprint was also important to avoid relocating the facility.

Organica's simple solution: more treatment capacity in much less space

RESULT

Eliminating their wastewater treatment limitations with Organica allowed Korda Studios to open its gates in 2007, providing a filming location for several Hollywood blockbusters. For the town of Etyek, being able to use the same property space for the construction saved significant expenses, and Organica's solution brought much needed industry and jobs to the area, providing a serious economic boost. Since 2007, the wastewater treatment plant has been reliably producing a stable, high-quality effluent consistently well under regulatory limits.

SOLUTION

Organica's engineers designed a new treatment facility that satisfies the increased wastewater demands of both the community and the new Korda Studios. Additionally, the flexibility of the solution ensures proper treatment of the incoming wastewater even in highly variable conditions. Due to the exceptionally small footprint of the Organica plant, the facility could be constructed on the same property as the original WWTP, while the former one remained in operation. This allowed a smooth and problem-free transition to the Organica solution, and also eliminated the need to purchase additional land. These benefits, along with the unique architectural design of a greenhouse fitting perfectly into the rural nature of the community, made the Organica solution an ideal choice for Etyek.



"Organica's treatment plant is much easier to operate and maintain than the traditional facilities we have operated in the past. The plant is so reliable that it practically manages itself on a day-to-day basis."



István Staudt
Chief Operations Director,
Fejérvíz Ltd. (WWTP operator)

Location
Etyek, Hungary

Project Scope
Municipal WWTP, design-build, finance and operational supervision

Operational since
2007

Footprint
570 m² (6 135 sq ft)

Hydraulic Capacity
1 000 m³/day
(264 000 gallons/day)

Community Served
10 000 people

THE ORGANICA SOLUTION

Organica Water is a global provider of innovative solutions for the treatment and recycling of wastewater. The Organica solution is an Integrated Fixed-Film Activated Sludge (IFAS) system utilizing a fixed-bed biofilm that grows on root structures, all housed in a compact, odourless, botanical garden-like facility. The resulting solution offers a significantly reduced physical footprint, zero "psychological" footprint, and lower operational and infrastructure costs when compared to other activated sludge-based wastewater treatment solutions.



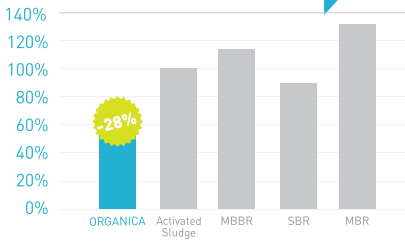
Cost savings on CAPEX

» Reduced civil costs



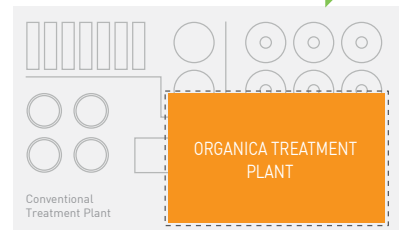
Cost savings on OPEX

» 30%+ lower energy consumption
» 30%+ less sludge production



Footprint Savings

» 50-75% smaller geographic footprint



PERFORMANCE SUMMARY OF THE ETEYK FACILITY

Parameter	Influent (mg/L)		Effluent (mg/L)	
	Design	Actual	Limit	Actual
COD	1000	762	100	50
BOD	500	375	30	13
NH ₄ -N	75	92	10	7
TN	100	120	35	19
TP	15	11	5	4
TSS	416	345	50	13

2007-2013 averages from monthly spot samples

RELIABLE AND RESILIENT

As a result of their unique ecological diversity, Organica facilities are not only able to meet the strictest effluent limits, but also are highly resilient to changes in influent conditions. This is especially important where industrial flows can unpredictably mix with municipal flows and threaten biological processes. The enhanced diversity of the Organica solution means the system can adapt to rapid spikes in influent much more effectively than other approaches. And because almost all of the biomass is fixed on root structures, oxygen transfer is much more efficient, resulting in significantly lower energy requirements. All of these benefits make the Organica solution ideal for nearly any application.