

# Environmentally friendly wastewater treatment for the Paulaner brewery

Food & Beverage | Reference

## The Client

The Paulaner brewery is one of the best-known German breweries, with a long tradition of the finest Munich art of brewing. The annual production exceeds 2 million hectolitres. The popularity of Paulaner beer has always extended beyond the city limits of Munich, both nationally and internationally. Paulaner beer is enjoyed in more than 70 countries worldwide.



## Key Figures

- Process: BIOBED® ADVANCED
- Wastewater volume: 2,800 m<sup>3</sup>/d
- Load: 23,500 kg COD/d
- Biogas production: 385 Nm<sup>3</sup>/h
- **Start-up: planned for 2015**

## The Client's Needs

Due to the increasing popularity of Paulaner beer the existing production site Nockherberg in the center of Munich reached its limits. In order to secure ample capacities for future growth, Paulaner has decided to move the production to Munich-Langwied. The new site has sufficient space as well as excellent connections to the highway.



The new brewery is currently under construction, with special emphasis on modern and environmentally friendly brewery technology as well as an energy- and emission-optimized infrastructure.

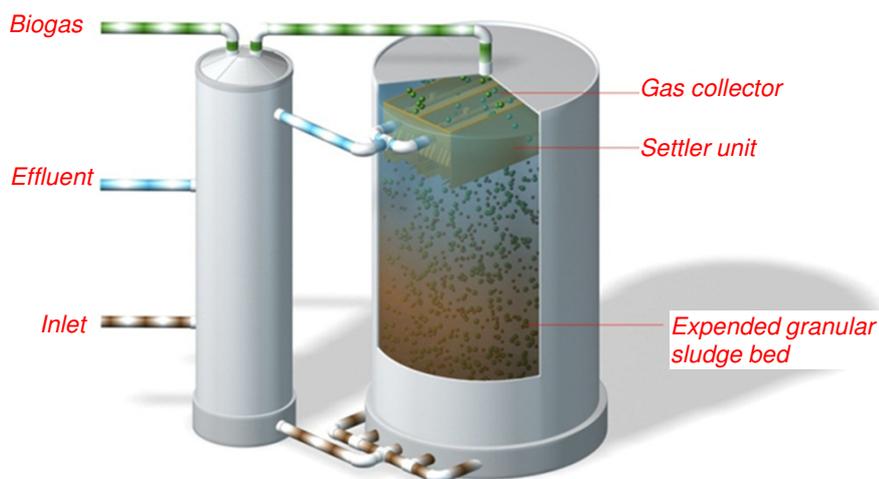
## The Solution

The beer production process generates organically loaded wastewater streams which are easily biodegradable. With conventional biological treatment, biological degradation is achieved by using aerobic organisms. These, however, need to be fed with oxygen, resulting in high operating costs and CO<sub>2</sub> emissions.

Paulaner have selected an environmentally friendly anaerobic treatment. The degradation process does not need oxygen, so the energy consumption is considerably reduced. Another advantage is the production of energy-rich biogas, which can be used on site.

To ensure a high level of operational reliability for their future wastewater treatment, Paulaner chose the proven BIOBED®-system supplied by Aquantis, a German subsidiary of the leading Veolia Water Technologies group.

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### Process Description

The wastewater treatment process comprises the following steps:

- **Preliminary screening**
- **Buffering**
- **Conditioning**
- **BIOBED® ADVANCED reactors**
- **Post-purge**

In a coarse and a fine screening, the solids are removed from the wastewater. A hydraulic buffering follows to secure an evenly distribution of the influent and a concentration balance of the wastewater streams. Conditioning is the next step, also serving as pre-acidification. Reagents are then added to achieve optimized anaerobic digestion.

Key components of the process are two BIOBED® ADVANCED reactors (see graphic), where the anaerobic digestion takes place and biogas is produced. This reactor type is proven on a global scale in hundreds of reference plants. The ADVANCED series is the latest development with further improved characteristics.

Before the effluent is discharged into the sewage system, a post purge is carried out. In this process step, high-quality AnoxKaldnes® carriers are used to achieve a high degree of efficiency.

**The biogas produced shall be used to produce energy in the boiler house on site.**

### Result

The Paulaner brewery has selected Veolia's BIOBED® ADVANCED technology, a robust system with a high degree of efficiency.

The process concept was jointly developed in the tendering stage and grants an optimized use of the given structure. The extensive process know-how of an experienced supplier contributed to a successful solution.

The choice of this environmentally friendly and state-of-the-art technology also emphasizes the Paulaner brewery's sustainability standards. Additional advantages include lower operating costs and a reduced CO<sub>2</sub> footprint, an increasingly important environmental topic further helping to protect resources.

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