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 CO₂ 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.
Environmentally friendly wastewater treatment for the Paulaner brewery

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 CO₂ footprint, an increasingly important environmental topic further helping to protect resources.

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