

UPTHANE™

- The new and improved municipal UASB

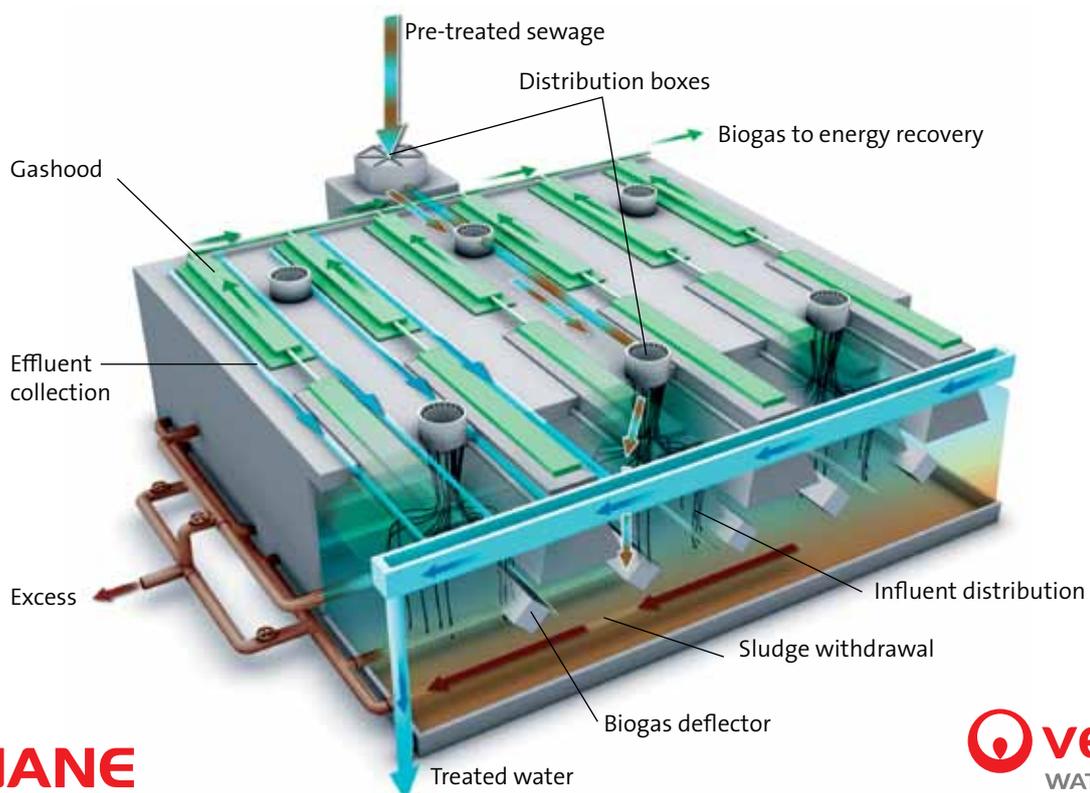


Reducing the operational costs and environmental impact of wastewater treatment plants is one of Veolia's major concerns. In this regard, anaerobic wastewater treatment systems offer numerous advantages over aerobic systems, such as lower energy requirements, reduced excess sludge production and increased energy recovery in the form of biogas.

For this reason Veolia Water Solutions & Technologies, a global provider of state of the art technologies for wastewater treatment, are now offering Upthane™, an anaerobic solution developed by Biothane specifically for the treatment of municipal sewage. Biothane is a subsidiary of Veolia Water Solutions & Technologies and has extensive experience in the design and construction of anaerobic treatment systems, gained from the construction of more than 500 installations in over 40 countries around the globe.

●●● The UPTHANE™ technology

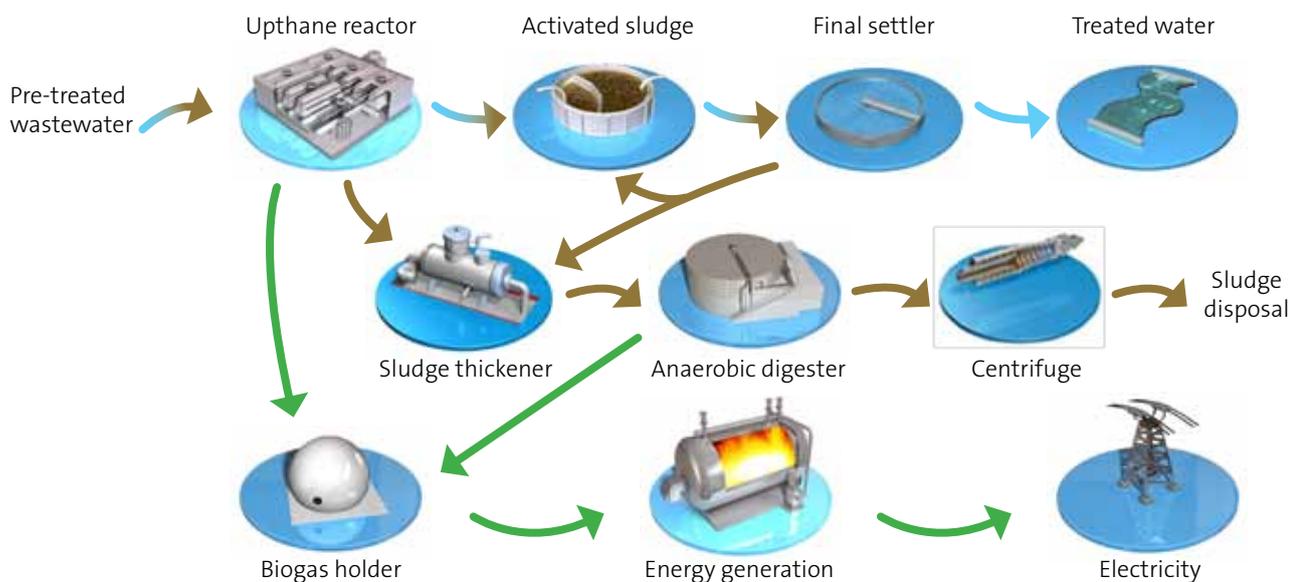
- The Upthane™ influent distribution system is gravity fed and designed to guarantee maximum contact between the incoming wastewater and the anaerobic biomass in the reactor.
- In the gas-liquids-solids separator biogas is collected in the gashoods, while effluent enters into the settling compartment and solids are retained in the reactor. Biogas collected in the gashoods contains approximately 70 – 80% methane and can be used to provide the energy needs of the STP in a gas motor or combined heat and power unit.
- Treated wastewater is collected uniformly from the surface of the reactor by a system of perforated pipes.



Main features

- Providing enhanced energy recovery and decreased energy consumption Upthane™ is specifically designed to meet the needs of the municipal market and is perfectly suited to developing countries with warm climates (sewage temperature > 15°).
- Under optimal conditions, an Upthane™ based WWTP can be a net energy producer.
- Upthane™ is capable of removing 60 to 80% of the organic load, thereby significantly reducing oxygen demand in the aerobic post-treatment system.

Typical process diagram of an Upthane™ based municipal sewage treatment plant (STP)



Advantages

- Energy production in the form of biogas
- Very low operational costs
- Easily adaptable to different flows
- Reduced sludge production
- Reduced chemical usage
- Reduced green house gas emissions
- Low operation and maintenance requirements

References

- Surat, India, (2003) 120,000 m³/d (Design)
- Ajman, UAE, (2009) 49,000 m³/d (Operation)