TTV BERNBURG

DE

TTV THÖNI HIGH SOLIDS ANAEROBIC DIGESTION

Plant data
Operator: MVV Energie AG

Plant data
Commissioning: 2022
Input: 33,000 t/a of biowaste and green waste
Digester: TTV1950 (concrete)

PLANT AND PROCESS

The delivered biowaste is unloaded into a deep bunker in the reception hall. Handling for the next process step, waste processing, is carried out by means of a crane system installed in the reception hall. For this purpose, the biowaste is taken directly from the deep bunker and fed to the pre-treatment unit, where it is shredded, screened and thus freed from impurities.

The processed waste then goes to an intermediate storage tank and then via a fully automatic conveyor system to the feed mixer. There, the fresh material is inoculated with fermented substrate, homogenised and then fed into the digester via a substrate heat exchanger located in the maintenance aisle below the digester.

The digestion process in the digester is based on an anaerobic, thermophilic and completely biological process, the so-called continuous high solids anaerobic digestion (cHSAD).

The hygienisation of the material is guaranteed by the appropriately defined residence time of the material in the digester. The curved digester floor and the patented agitator prevent the formation of sediment or impurity layers.

At the end, the digestate is separated into a solid and a liquid fraction by means of two screw presses, each with vibrating screens. The press water is temporarily stored in a storage tank and then used as fertiliser in agriculture. After dewatering, the solid digestate is subsequently processed into quality-certified compost.

The raw biogas is then refined into biomethane in an upgrading plant and fed into the local natural gas grid.