

Biogas Plant JCBE DERBY



Location	UK, Derby
Construction Period	2017/2018
Input Substrate:	Hydrolised kitchen – Cat. 2 (viscera)-, paper and cardboard waste (treated by THP), water (recycled, rain, mains)
Fermenter:	Concrete Tanks, 2 x 5,300 m ³
Gas utilization	Gas-upgrading system, over 6 Mio. m ³ of biogas per annum
Special Features	Pre-treatment system: Thermal Pressure Hydrolysis (TPH) for input material, substrate cooling system, two storage tanks, two digester and one secondary digester all equipped with double membrane gas holder roof, biogas upgrading system.

The JCBE DERBY biogas plant was built for- and is operated by Severn Trent Green Power. The singularity of this biogas plant is its application of an industrial Thermal Pressure Hydrolysis System for the input material. By this pretreatment a higher degree of cellular decomposition is achieved, which leads to a significantly higher gas production rate.

The plant is designed to convert 40 thousand tons of kitchen- and Category 2 - waste per year into biogas. Such input material contains impurities and a high chloride content, which - combined with a high temperature and low ph value - requires a redesign of commonly known processing technologies to be able to resist such aggressive conditions.

With almost 10,600 m³ volume of digester tanks and 4,500 m³ in the secondary digester the plant is capable to produce 1200 m³ of biogas per hour which is purified to bio-methane and fed to the national gas grid.