



Krieg & Fischer Ingenieure GmbH

## Biogas Plant QINHUANGDAO



Location:	Qinhuangdao, China
Construction Period:	2013/2014
Input:	Kitchen waste
Fermenter:	Black steel, welded, 2 x 3,400 m <sup>3</sup>
Gas utilization:	Utilization of biogas in households and as a biofuel

Special Features:	Two-stage system (Hydrolysis & Digestion), two pre-treatment tanks, one hydrolysis tank, two digesters, storage tank, external gas storage, digestate treatment, hydro-cyclone, external heating, decanter, biogas cooling through compressed refrigeration, effluent treatment system
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The QINHUANGDAO biogas plant is located in Qinhuangdao in Hebei province in the East of China. The owner of the biogas plant is the town Qinhuangdao. The customer is Beijing Fairyland Environmental Technology Co. Ltd. Supervision. Planning and construction management was undertaken by Krieg & Fischer Ingenieure GmbH. The digestion plant is designed to process kitchen waste (165 t/day). The kitchen waste is pretreated with hammer mills and stored in the pre-treatment tanks. Impurities are separated in a hydro-cyclone. After the hydrolysis step the acidified substrate is fermented in two digesters. The produced biogas (470 m<sup>3</sup>/hour) is stored in an external gas storage tank and is upgraded to bio-methane and this is marketed as a biofuel. A decanter is used for solid/ liquid separation of the digestate. The separated digestate liquor is treated in a waste water treatment plant, while the digestate fiber is market as fertilizer.

Startup of the biogas plant was in 2015.

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Responsibility of Krieg & Fischer Ingenieure GmbH:  
Conception, draft and execution planning, tendering and participation in the awarding process, supervision of construction, start-up, training courses