

## Biogas Plant DAISEN



Location	Tottori Province, Japan
Construction Period:	2013/2014
Input substrat:	pig manure, fats, sewage sludge, industrial food waste
Fermenter:	enameled steel tank, 5,000 m <sup>3</sup>
CHP	gas engine, 2 x 370 kW
Special Features:	1 digester, 1 secondary digester with gas holder roof , integration of an existing biogas plant, mesophilic operation
Cost:	Approximately 2,8 Mio. €

The DAISEN biogas plant was built and is operated by Sansui-en Inc. This biogas plant is a new construction with the integration and adaption of the old digester from the existing biogas plant. For the fermentation process are used about 73,000 m<sup>3</sup>/a of pig manure and 4,000 m<sup>3</sup>/a of fats and food waste. The engineering of the biogas system is configured as a single-stage system with several tanks for reception, storage and homogenization of the input substrates, a gas production unit with an upright primary digester (enameled steel tank) with top mounted mixer and a secondary digester with a single membrane gas holder roof. The gas holder roof is mounted inside the tank for protection against strong wind. Digester feeding with the pumpable substrates is engineered with special pumping technology. The biogas is recovered in two Otto gas engines with each 370 kWel capacity and the mechanical energy is converted to power in the generator. A part of the flow of the heat produced is used to heat up the substrates. The digestate is cleaned in a water treatment system into solids and clean water. The Startup is in 2014.

Responsibility of Krieg & Fischer Ingenieure GmbH:  
conception, detailed and construction plans, supervision of construction, start-up