

BIOFerm™ Anaerobic Digester

EUCO® TITAN PLUG FLOW CASE STUDY



Akron, Ohio

KB Bioenergy

KB BioEnergy constructed a Phase I COCCUS and EUCO ("EUCO Titan") anaerobic digestion system in 2007 to process wastewater sewage sludge from the City of Akron, Ohio's municipal treatment plant. EUCO Titan was built as a joint venture between the City of Akron and KB BioEnergy. In 2013, a Phase II expansion was added which allows the digesters to now process 100% of the facility's sewage sludge, generating additional renewable energy. Phase I handles about 7,000 dry tons biosolids a year, and Phase II processes almost double that with 15,000 tons a year.



System Overview

PHASE I + PHASE II EUCO Titan Plant

- >3 EUCO horizontal plug-flow digesters (combined capacity of 696,000 gallons)
- >3 COCCUS complete-mix digesters (combined capacity of 1,900,000 gallons)
- >1 All-in-One (AIO) technical container with a Jenbacher Type 2 J208 GS combined heat and power unit
- >3 additional 600 kW MWM engines



Financials

- PHASE I:** \$7 million capital investment
- >City investment of \$835,000 funded by annual compost sales of \$250,000
 - >\$9.6 million federal renewable tax credit
 - >Remainder funded by KB BioEnergy

PHASE II: \$32 million



Power & Energy Production

PHASE I

- >330 kWel continuous power engine
 - 330 kW electrical capacity
 - 395 kW thermal capacity
- >Average annual energy production
 - 2,890,800 kWh electrical
 - 11,796 MMBTU thermal
- >Estimate energy from the CHP could
 - Provide electricity to 256 homes/year
 - Heat 269 homes/year

PHASE II

- >Additional 1.8 MWel capacity (One 600 kW engine is on back up)
 - 1.2 MW additional electrical capacity
 - 1.3 MW additional thermal capacity
- >Additional average annual energy production
 - 10,530 mWh electrical
 - 28,868 MMBTU thermal
- >Additional estimated energy from the CHP could
 - Provide electricity to 932 homes/year
 - Heat 878 homes/year