

Hitachi Zosen
INOVA

San Luis Obispo, CA / USA
Kompogas[®] Plant



1 x 36,500 US t/a, 2,907,000 Nm³/a

San Luis Obispo, CA: First Kompogas Plant in North America

To support California's legislative goals of diverting 75% of organics from landfills by 2025, HZI executed the Kompogas® plant in San Luis Obispo as a finance, design, build, own, operate (FDBOO) model in cooperation with the local waste hauler Waste Connections and the San Luis Obispo County Integrated Waste Management Authority.

Supporting California's Organics Diversion and Renewable Energy Goals

As part of California's carbon footprint reduction policy from 2016, ambitious goals for the diversion of organic waste from landfills and renewable energy production have been signed into legislation. The state-of-the-art anaerobic digestion (AD) facility in San Luis Obispo, located on the scenic Central California Coast, marks the first Kompogas® plant in North America, contributing towards the state's forward-thinking goals.

The project has been awarded a number of grants by the California Energy Commission EPIC program and the CALRECYCLE Green House Gas reduction fund. It has also qualified for the US Federal Investment Tax Credit Program for the production of renewable electricity.

The Kompogas® Process

The facility was designed to process up to 36,500 short tons of source-separated organics and green waste as well as fats, oils, and greases from the county's residential collection program.

As pretreatment, the organic waste is shredded and cleaned of metals before being fed into the plug-flow digester. There, the thermophilic AD process ensures complete sanitation of the organic matter while its gas potential is fully exploited. The resulting biogas is utilized in an on-site combined heat and power (CHP) unit to produce renewable energy in the form of electricity that is exported to the utility power grid. The HZI KOM+Press separates the discharge into a solid and a liquid fraction. The solid digestate is aerated in indoor composting boxes and, like the liquid digestate, is subsequently marketed as nutrient-rich compost and fertilizer to local agriculture.

A state-of-the-art supervisory control and data acquisition system (SCADA) supervises all facility controls, monitoring processes, and performance tracking of the plant. For odor control, all processing at the facility is enclosed within negative air pressure buildings. The subsequent biofilter assures natural and efficient cleaning of the collected waste air. Therefore, no emissions are released into the surrounding environment.

Finance, Design, Build, Own, Operate (FDBOO)

This facility marks the first Kompogas® plant that has been executed in accordance with the FDBOO model. The owner is Kompogas SLO LLC, a subsidiary of HZI, which operates the facility based on extensive experience from the operation of European facilities.

General Project Data

Owner and operator	Kompogas SLO LLC
Commissioned	2018
Scope of delivery	<ul style="list-style-type: none"> - Finance, design, build, own & operations by HZI - Engineering, construction, and commissioning - Automated feeding system, dewatering system, CHP, enclosed digestate aerobization and biofilter

Technical Data

Annual capacity	36,500 US t/a
No. of digesters	1
Digester type	PF1800
Biogas use	CHP
Type of waste	Source-separated organics (SSO), food and green waste

Production

Production of biogas	2,907,000 Nm³/a (210 scfm)
Gross electricity production	6,321,000 kWh/a
Production of compost	20,100 US t/a
Production of liquid fertilizer	1,700 US t/a (421,000 gal/a)