



Hitachi Zosen
INOVA

SB 1383 Procurement Case Study

San Luis Obispo County (SLOIWMA) and Hitachi Zosen INOVA (HZI)

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County Population 284,010 (2018 Census estimate)

SLOIWMA is governed by a Joint Powers Agreement comprised of nine member agencies: seven cities, a community services district, and San Luis Obispo County. HZI is headquartered in Zurich, Switzerland, has an office in Norcross, Georgia (US), and specializes in proprietary energy-from waste technology.

SB 1383 Requirements

“Commencing January 1, 2022, a jurisdiction shall annually procure a quantity of recovered organic waste products that meets or exceeds its current annual recovered organic waste product procurement target as determined by this article.”

-California Code of Regulations, Title 14, Section 18993.1.a

Program Synopsis

The SLOIWMA and HZI have a relationship built on organic waste. Residents and businesses located within the SLOIWMA's service area generate it, and HZI's Kompogas Anaerobic Digestion (AD) technology turns it into electricity, compost, and liquid soil amendment. In a span of a few years, HZI designed, financed, and built the facility. HZI secured financing based on 20-year material flow commitments made by each of the SLOIWMA's member agencies in their compliance with SB 1383 in two key ways: by expanding organics processing capacity and by generating beneficial byproducts to support fulfillment of the recovered organic waste product procurement requirements.

Project Milestones

2015 Initiated by SLOIWMA, HZI begins, developing plans for the first North American Kompogas, AD Facility, located in San Luis Obispo.

2016 HZI leases land from Waste Connections, the parent company of several haulers subsidiaries that service the SLOIWMA; HZI begins construction of the

Kompogas facility.

2018 HZI Kompogas facility begins operating. Green waste and food waste collected from SLOIWMA member agencies is processed at HZI; the facility has a five percent (5%) contamination threshold.

How the System Works

1. Collected food scraps and green waste are pretreated to remove contamination. The pretreatment process involves using a slow-moving shredder and screen to separate metals and other contaminants from the organic materials.
2. Materials are fed into a high solids anaerobic plug flow digester to be processed at 131 degrees Fahrenheit.
3. Biogas (mainly methane) and organic-grade solid compost and liquid digestate are produced and recovered.
4. Pretreated biogas utilized by combined heat and power unit produces electricity that feeds the PG&E utility grid.

Lessons Learned

- During the planning process, HZI had to decide whether its AD-produced biogas would be converted to compressed natural gas (CNG) or electricity. At the time, Waste Connections did not have enough CNG trucks to consume the produced CNG, and the area where the facility would be housed did not have the proper CNG infrastructure in place. These two factors, coupled with the economic incentives tied to producing electricity (mainly federal tax breaks and subsidies) led HZI to pursue an organic-to-electricity AD system.
- HZI says the hardest part of the project was obtaining permits for a facility in which no one in the region was familiar. The company overcame this challenge by holding public outreach meetings and educating permitting authorities. Through these meetings, the company overcame public misconceptions, supported by HZI's observation that Europe is home to thousands of similar AD facilities.

Next Steps

- HZI is currently building a similar AD facility in the San Diego County region and is actively pursuing ten other AD projects across the state.
- HZI estimates that it takes about one year to develop plans and obtain permits for this type of AD facility, and another two years to build it. As such, HZI recommends that interested jurisdictions and companies begin planning now in order to meeting SB 1383's 2022 implementation date.



The HZI Kompogas AD facility in San Luis Obispo. Photo: Hitachi Zosen Inova

BY THE NUMBERS

HZI's Kompogas AD Facility

100

Tons per day of organic material processing capacity

600

Kilowatt hours (kWh) generated

\$25M

Approximate cost of Kompogas AD facility

\$8M

Grant funding from CalRecycle and the California Energy Commission