



**CPL Biogas Skid**

The Owner of this project is a large beverage manufacturer, which makes and bottles fruit juice and juice-based beverages. Due to the plant's size, the Owner built their own water treatment plant in 2001 to handle the waste products manufactured from the various beverage processes.

One of the main components of the waste being generated by these processes is methane, a by-product of processing sugar and other natural materials in the manufacturing plant. On average, the Owner was generating over 123,000 standard cubic feet (scf) of methane each day. This methane, which has approximately 65% of the heat value of natural gas, was just being flared off as waste into the atmosphere.

ThermalTech proposed a solution that would use the methane generated and reclaim it for use in the manufacturing facility. Because of the high

heat value, burning the biogas in the plant's boiler reduces the natural gas required to generate steam for processes within the plant.

ThermalTech helped in designing a biogas reclaim process. This included a dryer and compressor installed at the treatment plant, which cleaned and compressed the biogas for use in the boiler. Then 3,500 feet of buried piping carries the biogas to the plant boiler house, where it is used to manufacture steam for many processes within the plant. A custom boiler package was also added.

This new setup saves approximately \$236,000 per year in natural gas costs. With a \$750,000 installation cost, that gives the Owner a payback of less than three years and allowed the Owner to re-use a natural by-product of the manufacturing process, rather than flaring it off.

**Project Owner**

Large Beverage Manufacturer  
And Distributor

**ThermalTech's Responsibility**

MEP Feasibility Analysis  
P&ID Development  
Mechanical Design  
Construction Management  
Commissioning

**Natural Gas Savings**

\$236,000/yr (est.)

**Project Payback**

Approximately 3 years

**Completion Date**

2009



**Tie-In at Water Reclamation Plant**



**Tie-In at Main Plant**