Point Loma Wastewater Treatment Plant's Beneficial Use of Digester Gas (BUDG) Project with BioFuels Energy, LLC Fact Sheet

2/7/11

- What is the Beneficial Use of Digester Gas Project (BUDG)?

  The BUDG project is an environmental project that utilizes excess digester gas to clean the air and reduce the release of global warming gases through the production of renewable electricity. It will generate revenues for the City, at no capital cost to the City. The BUDG project uses this excess Digester Gas from Point Loma Wastewater Treatment Plant (PLWTP) to produce natural gas. The natural gas will be injected to SDG&E natural gas distribution system for transporting (or wheeling) to University of California, San Diego (UCSD) and to the Public Utilities Department's South Bay Water Reclamation Plant (SBWRP), where it will be used to supply ultra clean fuel cells that will generate renewable electricity.

- What is Digester Gas?

  Digester Gas is produced by the biological breakdown of organic matter in the absence of oxygen. It is a renewable fuel (approximately 63% methane and 37% carbon dioxide gas). Any CO_2 produced by its disposal or use is considered to be "biogenic" or "naturally occurring" CO_2 by greenhouse gas regulations.

- Why consider this Project?

  Over 1,100,000 cubic feet of renewable digester gas per day is now being flared, which can be put to beneficial use.

- Why not utilize the Digester Gas at Point Loma Wastewater Treatment Plant?

  The PLWTP generates 5.8 MWs of renewable electricity of which 2 MWs is used on site. The Point Loma Wastewater Treatment Plant can not currently economically utilize this gas at the site to produce more electricity due to site restrictions, including

the capacity of SDG&E's onsite electrical substation to export electricity, air pollution regulation, as well as other financial and project limitations.

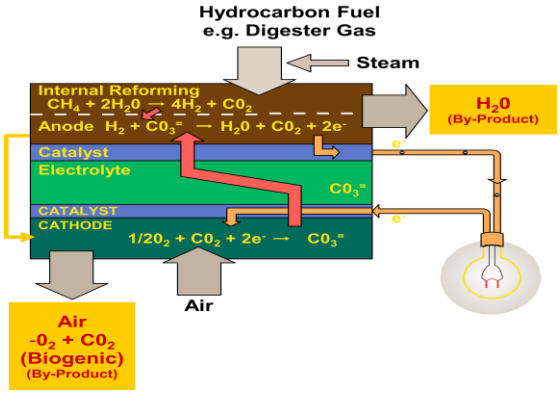
- What happens if the PLWTP loses its EPA waver from secondary treatment which currently requires renewal every five years?

  The agreement has options to handle this kind of circumstance including a City option to terminate for permit issues after five years.

- What is currently being done with the Biogas?

  The Biogas is currently being flared at PLWTP in Air Pollution Control District permitted enclosed flares. These flares meet the permit's best available control technologies requirements. The flaring of this biogas produces approximately 15 lbs/hr of nitrogen oxide (NO_x) and 20 lbs/hr of carbon monoxide (CO). The BUDG project will reduce the production of both NO_x and CO (precursors to ozone) by approximately 97% and 98% respectably and will prevent the production12,000 tonnes of non-biogenic CO_2 per year.

- What is a Fuel Cell?



  A fuel cell is an electrochemical conversion device. Fuel cells fueled by biogas produce virtually no pollutants. Its internal operations are similar to that of a battery. It produces electricity from fuel (digester gas) on the anode side and an oxidant (air) on the cathode side, which react in the presence of an electrolyte (carbonate). Water and biogenic CO_2 are the fuel cells by products.

- Where will the BioFuels owned and operated Fuel Cells be located that the natural gas will be transported to?

  Two 1.4 MW fuel cells will be located at the University of California, San Diego (UCSD). One 1.4 MW fuel cell will be located at the City's South Bay Water Reclamation Plant (SBWRP). This independent project and agreement is called the South Bay Fuel Cell (SBFC). The SBWRP will receive electricity at a reduced cost saving the City over $78,000 per year.

- How much renewable energy will this project provide?

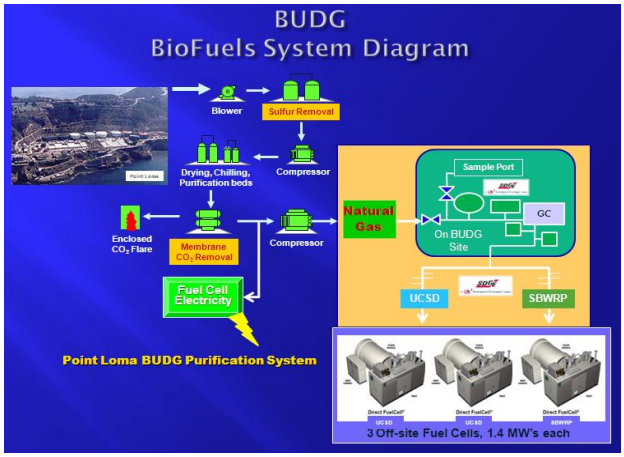
  This project will provide about 4.5 Megawatts of base load (24hr/day) renewable electricity, including a 300kW fuel cell that will be located at the PLWTP to operate the BUDG project.

- What benefits will the City realize from the BUDG and the SBFC projects?

  The BUDG project will produce revenues from the sale of raw digester gas of about $250,000 per year and the SBFC project will save the SBWRP about $78,000 per year in energy cost. The City will receive at startup $500,000 for compensation for various contract changes and delays associate with the pipeline injection system. The first five years of environmental credits from these projects have been sold by BioFuels. The City's share of these additional environmental revenues is expected to be about $300,000.

- How will the Digester Gas be processed before injecting into SDG&E natural gas pipeline?

  The PLWTP digester gas will be cleaned of contaminates to meet natural gas standards as defined by SDG&E's and the California Public Utility Commission Rule 30 standards. Hydrogen sulfide H_2S and CO_2 will be removed. This natural gas will be compressed to 100psig for injection into the SDG&E gas line. The BUDG system will be sized to take a minimum of 0.62 MMSCFD and a maximum of 1.6 MMSCFD of excess digester gas produced by the PLWTP. The feed gas will go through a low-pressure blower and an initial purification step to remove the H_2S. The gas will then go through process steps to remove water, volatile organic compounds, and other compounds, before entering a step to remove carbon dioxide. The resulting product will be natural gas that will be injected in to the SDG&E natural gas pipeline for transportation to the fuel cells at UCSD and SBWRP.



- Is methane or carbon dioxide (CO_2) toxic?

  No.

- Is methane or CO_2 gas hazardous?

  Methane is a fuel. It is combustible and is therefore hazardous. CO_2 is not hazardous.

- Are there any issues relative to burning this injected natural gas?

  No. It will be natural gas and meet all natural gas standards.

- Who will monitor the quality of the natural gas entering the SDG&E gas system?

  SDG&E will have continuous and periodic gas monitoring devices on the natural gas injection system, like they do on all their natural gas sources. These quality monitoring devices monitor remotely by SDG&E.

- How was this project developed?

  The BUDG project was developed by first issuing a Request for Qualifications to the public for any viable concept to beneficially use this digester gas in February 2006. While a number of companies stated interest in the gas and various processes were discussed as options at the pre submittal meeting, one proposal was submitted. That was to make Bio-CNG on the PLWTP site and to use tube trucks to transport it to remote sites for use in state grant funded Fuel Cells. The project went through the Peninsula Community Planning Board's (PCPB) Facilities Subcommittee and its June 2007 monthly meeting. In March 2008 the SBFC was approved by City Council. On August 27, 2009 SDG&E issued a "clarification" of their Rule 30 testing requirements, thus allowing "bio-methane" to use their system for natural gas transportation purposes (or wheeling). SDG&E met with the City twice and teamed with the BUDG Project owners (BioFuels Energy, LLC (BioFuels)) to actively encourage the use of their natural gas system on the BUDG Project. In December 2009 City Council will hear a proposed amendment to the BUDG Agreements to allow SDG&E to transport this gas.

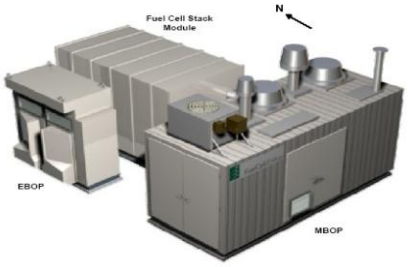
- Who is BioFuels Energy, LLC (BioFuels)?

  BioFuels is a company located in Encinitas, CA owned by Frank Mazanaec and Ken Frisbie. In January 2009 the original owner and developer of these projects, Linde/BOC, informed the City that due to the world economic crisis the company no longer could use the project's substantial tax credits and they were no longer developing biogas projects. Therefore, Linde/BOC wished to invoke their rights to assign the project to BioFuels owned by Frank Mazanec, Linde/BOC's local project manager on this project. The City evaluated the proposed Linde/BOC assignment to BioFuels, who provided a proposal with most of the original Linde/BOC BUDG/SBFC team intact, and SCS Engineers as the

design/builder/operator and project guarantor of the BUDG Project at the PLWTP. A City evaluation committee, which included financial, legal, engineering and operations representatives, evaluated the assignment. It was decided the requested assignment met the agreement's requirements. This assignment to BioFuels and some associated amendments to the agreements were taken to the PCPB and SYPG in March of 2009. It was passed by City Council in June of 2009.

- Who is responsible for the project?

  BioFuels Energy, LLC is the owner and is responsible for engineering, procurement, construction and operation and financing of this project. This project is privatized. The City will contribute no capital to the project.



- Who is providing the Fuel Cell?

  The Fuel Cells are supplied by Fuel Cell Energy.

- Who is responsible for proper treatment of the digester gas?

  SCS Energy, a BioFuels contractor and team member, is responsible for cleaning all biogas secured by BioFuels at the wastewater treatment plant meet the gas specification required for it to meet SDG&E's Rule 30 natural gas standards.

- Where is the project in its development schedule now?

  The projects have been financed by BioFuels using tax exempt State of California Pollination Control Author approved bonds BioFuels is under construction at all three sites: the PLWTP BUDG, the SBWRP Fuel Cell and the UCSD Fuel Cells. Start ups are scheduled for this summer.