FACT SHEET

City of Riverview

Riverview Land Preserve
City of Riverview, MI

BioCNG, LLC, is part of a team that assisted with the development of a BioCNG™ alternative vehicle fuel system at the City of Riverview's Riverview Land Preserve (RLP). BioCNG provided site design and permitting services, and furnished the biogas conditioning system, the compressed natural gas (CNG) fueling station, and the CNG storage tanks. BioCNG also performed system commissioning and startup.

The City's BioCNG system converts about 100 standard cubic feet per minute (scfm) of excess LFG into about 500 gallons of gasoline equivalent (GGE). RLP currently has a 6.4 MW landfill-gas-to-energy plant on site and flares about 500 scfm of excess gas. The BioCNG system will provide a lower cost fuel while also reducing the amount of excess gas flared.

The City is using the patent pending BioCNG vehicle fuel system to convert a portion of landfill gas (LFG) generated at RLP into CNG, which is being used to fuel seven City vehicles, as well as an AT&T fleet. BioCNG fuel costs significantly less than gasoline and diesel and is also environmentally preferable to unleaded diesel fuel.

The City also hopes to convert its police interceptors to CNG vehicles. Eventually, the City will make the fuel available to neighboring communities and the landfill's commercial customers.

Project Manager:
Ben Peotter, PE

Client Contact:
Robert Bobeck
Tel # 734.785.5927

Start/End Date:
September 2012 – May 2013

Key Project Activities

- Site design
- Permitting
- System commissioning and startup

BioCNG™

For more information:
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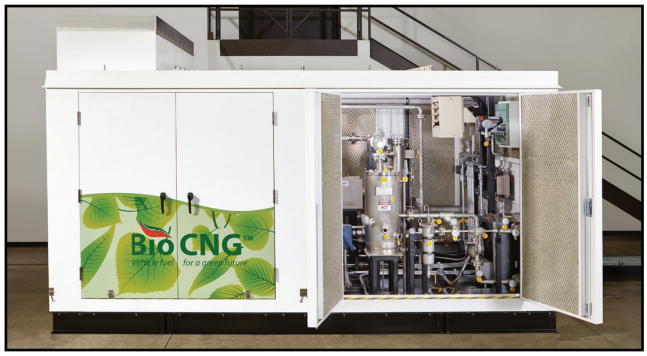
biocnginfo@biocng.us



Specifications

Biogas Source
MSW Landfill

Size *(MGD)*
3,000-4,000 TPD, depending on season

Gas Collected *(entire site)*
4,400 scfm

Gas Quality
Methane (CH_4) - 52%, but extracting from a richer area for BioCNG

Flares
2,100 scfm open flare
4,000 scfm open flare

Other Gas Use
Landfill gas-to-energy plant

owned by Riverview Energy Systems (a joint owned firm by DTE Biomass and Landfill Energy Systems) with two Caterpillar Solar turbines producing 6.4 MW

Available Gas for CNG
100 scfm

Size of BioCNG Unit
BioCNG 100

Components
H_2S removal, chilling, VOC/Siloxane removal, CO_2 skid-mounted/winterized

Fueling Unit
ANGI Fueling Station

Start-Up Date
April 2013

Fuel Production (GGE)
450-550 GGE/Day (approximate maximum)

Waste Gases
Routed to turbine plant and flares

Back up for CNG Fueling
Natural gas to be piped in at approximately 10 psi

Fleet Size/Type
Starting with two vehicles; City implementing a conversion program as vehicles are replaced

Outside Users
Adjacent municipalities and landfill customers

BioCNG Sizing and Cost Information

System Size	Biogas Inlet Flow (scfm)	Typical Fuel Production (GGE/day)	Budget Price ($million)	O&M Estimate ($/GGE)		Estimated Fuel Production Cost without RINS	
				Fueling Station	Without Fueling Station	Fueling Station	Without Fueling Station
BioCNG 50	50	200-300	1.2	0.74	0.61	2.16	1.42
BioCNG 100	100	375-600	1.5	0.59	0.44	1.40	0.92
BioCNG 200	200	775-1200	2	0.96	0.31	0.98	0.60

1 Fueling station options available from BioCNG at additional cost.
2 Grants, subsidies, tax credits not included
3 Assumes 10 year depreciation
4 BioCNG is qualified to receive D3 and D5 Renewable Fuel Standard Credits. Financial impact will depend on the project-specific operating scenario, and can be up to $1.20 per/GGE
5 Does not include road tax
6 Assume 60% methane