



What is Biogas?

Biogas is produced by organic materials as they break down naturally. It is composed of approximately 60% methane (the principle ingredient in natural gas) and 40% carbon dioxide.

Why Upgrade Biogas?

Raw biogas contains impurities that prevent its application in traditional natural gas fired equipment. Upgrading biogas to pipeline quality natural gas standards expands your downstream energy choices.

How is Upgraded Biogas Used?

BTU's innovative technology cleans, separates and upgrades biogas to methane that can be piped directly into the local gas utility lines, used on-site in traditional gas appliances, used to generate electricity and heat, or further compressed and used as motor vehicle fuel (CNG).



Why BTU?

BTU's innovative biogas upgrade equipment has been sized to meet our customer's needs. Our appropriately sized units are able to maximize your biogas value by minimizing wasted capacity.

Helping with the energy decision: The chart to the right represents energy values based on the assumptions described below. While energy values vary significantly across the nation, BTU's team of energy specialists can help guide you to make the most cost efficient decision for your biogas.

* Values to the right are based on rates of \$0.10 per kWh (electric), \$10.00 per MMBtu (natural gas), and \$2.00 per gallon of gasoline equivalent (CNG).

BIOGAS (cfm)	ELECTRIC (kWh)/DAY		NATURAL GAS (MMBtu)/DAY		CNG (Gallons)/DAY			BTU UNIT
	UNITS	VALUE	UNITS	VALUE	UNITS	VALUE		
50	4,633	\$463	33	\$333	263	\$525	100	BTU UNIT
100	9,266	\$927	67	\$666	525	\$1,051	250	
175	16,216	\$1,622	116	\$1,165	919	\$1,839	360	
250	23,166	\$2,317	166	\$1,664	1,313	\$2,627	500	
325	30,116	\$3,012	216	\$2,163	1,707	\$3,415	750	
400	37,066	\$3,707	266	\$2,663	2,101	\$4,202		
475	44,016	\$4,402	316	\$3,162	2,495	\$4,990		
550	50,966	\$5,097	366	\$3,661	2,889	\$5,778		
625	57,915	\$5,792	416	\$4,160	3,283	\$6,566		
700	64,865	\$6,487	466	\$4,659	3,677	\$7,354		
775	71,815	\$7,182	516	\$5,159	4,071	\$8,142		
850	78,765	\$7,877	566	\$5,658	4,465	\$8,930		
925	85,715	\$8,571	616	\$6,157	4,859	\$9,718		
1000	92,665	\$9,266	666	\$6,656	5,253	\$10,506		



Who Produces Biogas?

- Farmers
- Landfills
- Wastewater facilities
- Coal Mines
- Fossil Fuel Producers



TYPICAL OUTGOING GAS SPECIFICATIONS	
CO ₂	< 2% by volume
H ₂ S	< 1 ppmv
Siloxanes	< 10 mg/cu. M
Water Vapor	< 0.5 lb/mmscf (-80pdp)

Quality:

Methane from BTU's equipment meets or exceeds the pipeline quality gas specifications set by utility companies.

How does Biogas Effect the Environment?

Methane is a greenhouse gas that has twenty one times the global warming potential of carbon dioxide and is a major contributor to climate change. Unlike other greenhouse gasses, methane can be used to produce clean renewable energy that can offset traditional fuel sources. Biogas capturing systems, such as anaerobic digestion and landfill wells, can be used in conjunction with BTU's equipment to create marketable energy from a waste by-product that was previously vented to the atmosphere.

