



BRIGHT BIOMETHANE

**MOST EXPERIENCED SUPPLIER OF
RENEWABLE NATURAL GAS SYSTEMS**



BIOGAS UPGRADING SYSTEMS

RELIABLE



Proven membrane technology achieving more than 97% operational availability. System is easily integrated with a biogas plant, provides optimal gas cleaning, a robust design, an advanced patented control system and the assurance of 24/7 service support with service teams in every state and province.

EXPERIENCE



Having constructed the world's first commercial plant for upgrading biogas using a 3-stage membrane system, Bright Biomethane successfully uses this proven design in its systems operating today.

QUICK TO GRID



The advanced design and patented control system makes it possible to inject specification compliant renewable natural gas (RNG) to grid within a few minutes of start-up. Another option is to use the gas as transport fuel (CNG). Other technologies can take much longer to start up with resultant methane losses and operational inconvenience. Bright Biomethane plant operators have the option to stop and start the facility at their convenience with minimal methane loss and no wasted energy consumption.

PROFITABILITY



99.5% methane recovery, more than any other system. The lowest electricity consumption. No heat is required for the biogas upgrading process due to heat recovery covering the main heat consumption of the biogas facility. All at competitive price level.

LIQUID CO₂



A Bright Biomethane CO₂ recovery unit can also be integrated with the standard 3 or 2 stage membrane upgrading systems. The high separation efficiency of the membranes means that the energy consumption of CO₂ liquification is much lower than conventional systems.

NO CHEMICALS NO WASTE(WATER)

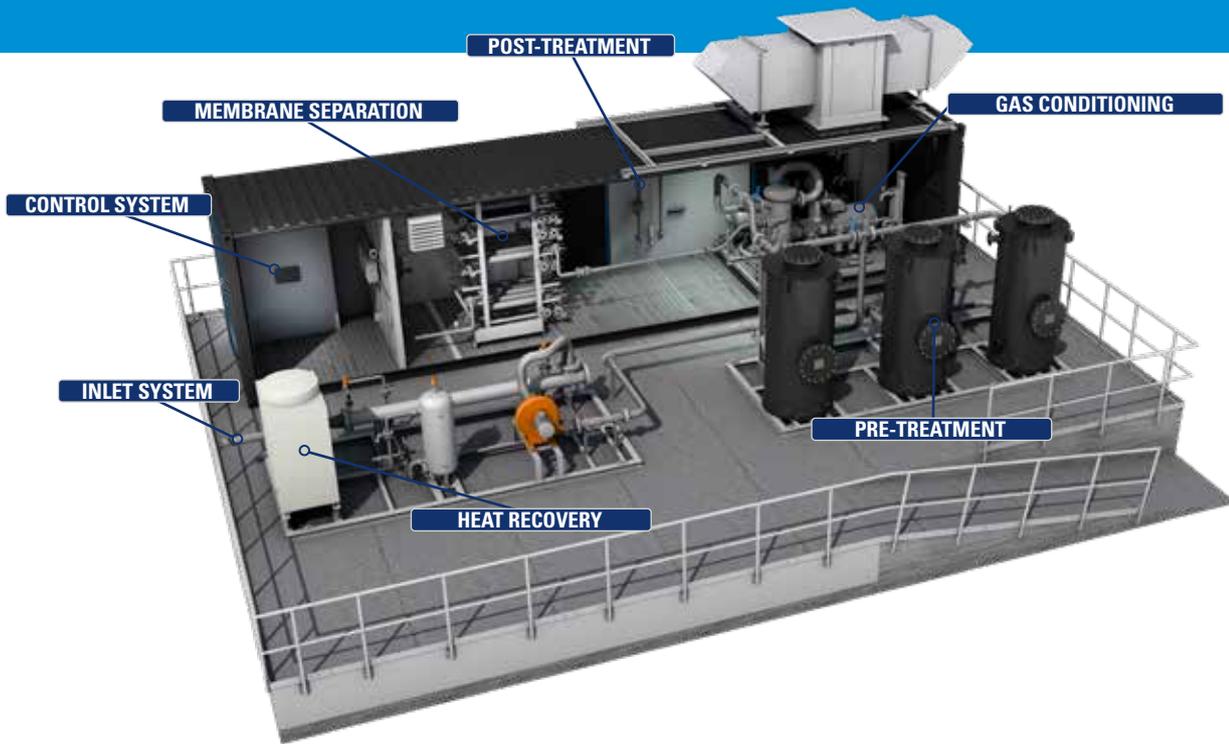


No water or chemicals are needed in the Bright Biomethane process which means that there are no disposal problems, such as acid water or chemicals that can be an unforeseen cost with other technologies.

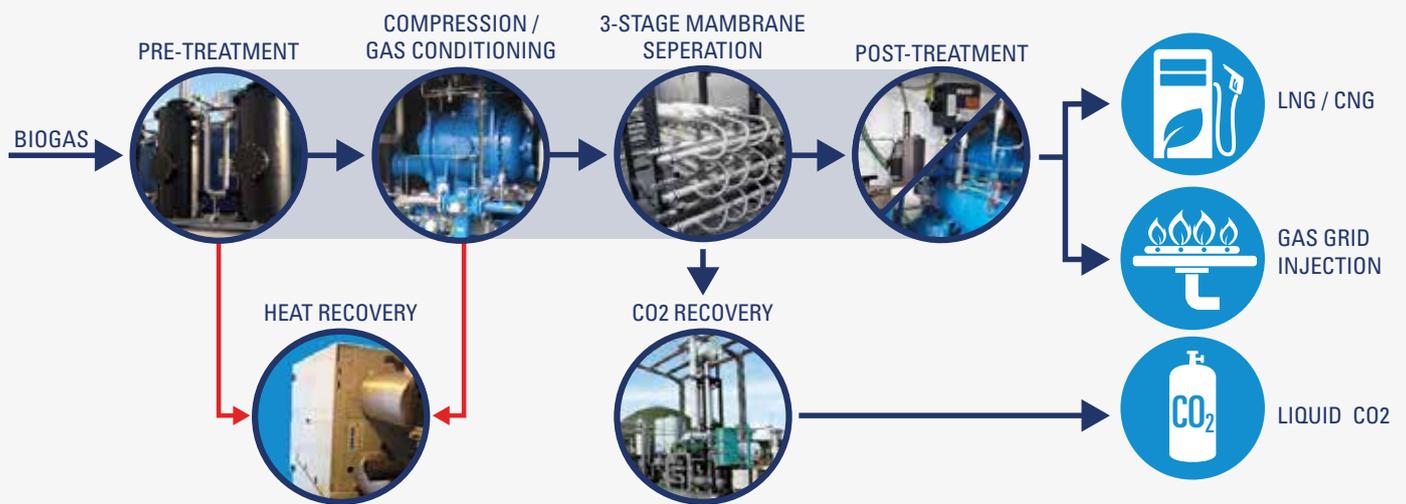
GAS TREATMENT



Bright Biomethane is experienced in managing biogas produced from most forms of biomass feedstock, including municipal sludges and wastes. Based on this experience, reliable biogas pre-treatment solutions can be offered to ensure the correct biogas specification is achieved before upgrading.



THE BRIGHT BIOMETHANE PROCESS



TECHNOLOGY

In the membrane unit, the gas is separated by means of an imposed pressure difference over the membrane. Two gas streams will be obtained from the plant; a product gas, with a high methane value, and a CO₂-rich gas. As a result of highly selective membranes and the recuperation of methane, the highest possible methane yield can be achieved. Depending on the application, the gas can be upgraded to the preferred methane value.

APPLICATION

One of the applications is to inject the obtained renewable natural gas into the gas grid. It can also be used as transportation fuel (CNG) for vehicles. In both applications the patented 3-stage separation process ensures that the gas meets the requirements for a specific application. The residual heat and the CO₂ can also be utilised. A special heat recovery system can be installed to produce high temperature water and CO₂ may be recovered and liquefied to provide an additional value stream.

A BRIGHT IDEA FOR THE PERFECT BIOGAS UPGRADING SOLUTION.

BRIGHT SOLUTIONS

Bright Biomethane is the largest supplier and most experienced supplier of well-proven biogas upgrading systems. Our systems are available from **25 cfm** (and higher).

By applying highly efficient membranes the separation of methane from biogas can reach an **efficiency of more than 99.5%** and render RNG suitable for **injection in the gas grid** or compression to **CNG** which can be used as vehicle fuel.

In addition to the production of renewable natural gas the Bright Biomethane systems may be used to **recover and liquefy CO₂** to create an extra source of revenue for the plant owner.

For more information and a complete overview of our projects, please visit our website.



Biogas: 634 cfm RNG: 393 cfm

WAALEWIJK, NETHERLANDS

The biogas plant is fed with over **30 different waste streams**, including food waste, road side grass, industrial flotation grease, etc. The upgrade plant supplies gas to the grid and has an operational availability of **> 97%**.



Biogas: 634 cfm RNG: 349 cfm

HEREFORD, ENGLAND

The plant is fed with **manure, agricultural waste and apple pulp**. A 3-stage membrane upgrade system is integrated with a CO₂ recovery system. The plant can run with or without CO₂ recovery.



Biogas: 63 cfm RNG: 22 cfm

HÄRNÖSAND, SWEDEN

The biogas comes from **landfill gas and from municipal waste** digestion. The installation is suitable for a very cold climate (North of Sweden). The produced Bio-CNG is utilized as vehicle fuel.



Biogas: 120 cfm RNG: 68 cfm

TOURS, FRANCE

The installation is running on gas from a **municipal sludge** anaerobic digester. The renewable natural gas is injected into the gas grid.

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