



Profitable and robust biogas upgrading

Gas Solutions biogas upgrading plants are based on the Puregas CA technology, an amine scrubber optimised for biogas and small-scale natural gas polishing.

As well as providing the lowest operational costs, the low methane slip and low power consumption of our technology also reduces the environmental impact.

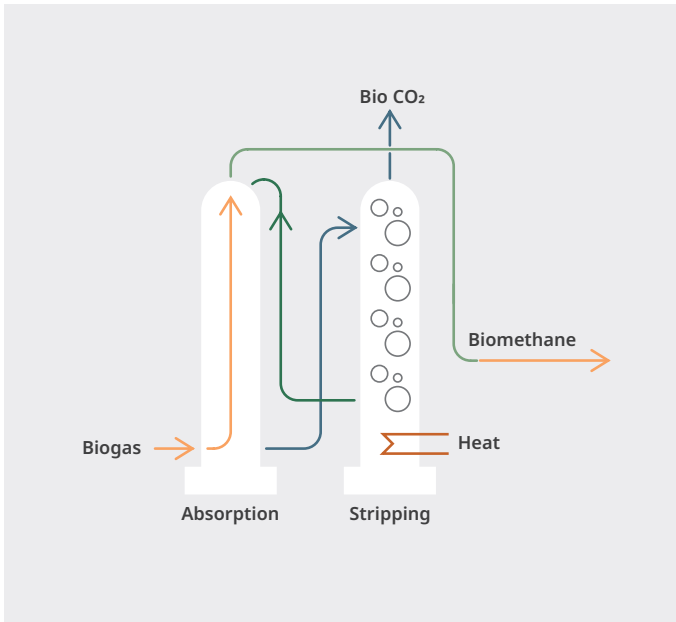
The amine scrubbing process is known for its robustness towards impurities common in biogas such as VOCs, ammonia etc. With Puregas CA the need for upstream biogas treatment is minimised.

The single largest operational cost for upgrading is electricity. Puregas CA offers the lowest electrical consumption, less than half compared to other upgrading technologies.

As well as resulting in loss of revenue methane slip is also a greenhouse gas emission. The methane slip from Puregas CA is 10 to 60 times lower than with other upgrading technologies.

The absorption media operates within a closed-loop process which minimises media consumption. Unlike some upgrading technologies, performance does not deteriorate over time and consistent results over the whole lifecycle of the plant can be achieved.

Depending on the application, biomethane and/or bioLNG needs to fulfill certain quality demands such as energy content, wobble index, temperature etc. Our solutions secure such quality directly from the process without any need for additional treatment or additives.



Why Puregas CA for biogas upgrading?

- Minimum Methane Slip, < 0.1%
- Highest Methane Purity
- Lowest electricity consumption
- >95% heat recovery
- Product Range Flexibility
- Process modules with integrated housing
- Unmanned operation
- Service and support

A Puregas CA for every biogas and biomethane need

Different anaerobic digestion philosophies produce different types of biogases and the required quality of the upgraded biogas (biomethane) can differ due to its final use. Puregas CA biogas plants are available in different versions to suit various situations. Puregas CA is available in the following versions among them the unique patented VAC (Vacuum) solution:

- Standard – upgrade biogas with a low H₂S content
- H₂S – upgrade of biogas with a high H₂S content
- LP – deliver upgraded biogas at low pressure
- LBG – upgrade and polish biogas for bioLNG liquefaction
- CAP – polish biomethane for bioLNG production
- VAC – for low temperature heat supply at 95 C e.g. district heating / heat pump

Puregas CA range and key characteristics

Puregas CA size	Capacity Nm ³ /h biogas
30	760
50	1 210
60	2 410
70	3 420
80	6 000

Biogas saturated at 40 C and 60% CH₄, biomethane at 4 barg.

Electricity	< 0.11 kWh/Nm ³ biogas
Heat	< 0.57 kWh/Nm ³ /h
Heat recovery	> 95%
Methane slip	< 0.1%
Methane purity	Up to 99.9%
Installation	8 weeks from equipment at site to produce gas at spec

About Wärtsilä

Wärtsilä Gas Solutions, is a market leader with innovative systems and lifecycle solutions for the gas value chain. One of our main focus areas are the biogas solutions, beside our already strong presence in handling of gas in the maritime industry (storage, fuel, transfer and BOG management), gas to power and liquefaction. Our biogas business has facilities and personnel in Denmark, Sweden, Norway, Finland, Germany, UK and USA. We help our customers on their journey towards a sustainable future through a focus on lifecycle performance, innovation and digitalisation.



Wärtsilä Biogas solutions