LNG

THE FUTURE OF GREEN POWER BRC

HYDROSWISS®

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LNG THE FUTURE OF GREEN ENERGY AT FULL POWER

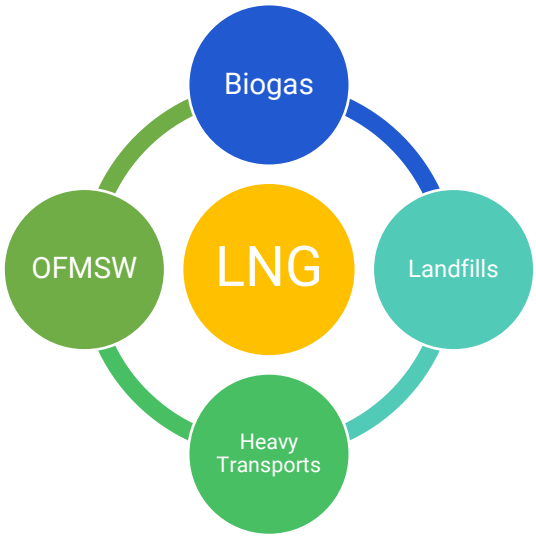
The real and efficient answer to clean energy and power from renewable sources is undoubtedly the production of LNG from biogas.

Biogas is normally produced by anaerobic digestion plants, using various biomasses or other organic substances, and also from waste dumps. Often the exploitation of biogas, especially from landfills, is not exploited due to logistical and structural issues, through **LNG-500** plants it is possible to exploit these natural resources and contribute to a real **sustainable circular economy**.

LNG APPLICATIONS

The highest-yield application is the production of LNG using biogas, but it is also possible to produce LNG using natural gas from the grid.

The main use of LNG is as a traction fuel in heavy transport.



BENEFITS OF LNG

The high density of LNG allows a high energy reserve in a small space. Thanks to the high compressibility of methane gas, LNG **reduces** volume by **600 times**, optimising storage and transport operations.

- 15% emissioni CO2
- Trasporti efficienti
- Sostenibilità

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BIOGAS TO LNG

The biogas produced by anaerobic digestion plants or landfills can be upgraded to **LNG** and liquid **CO2**, allowing these gases to be sold even in the absence of a distribution network.

Biogas is characterised by the average presence of 60 per cent methane (CH4) and 40 per cent carbon dioxide (CO2), in addition to other impurities.

The LNG-500 plant is compact and enclosed in an **ISO40' container** from the impurity filtration (polishing) to the compressors to the electrical control panel. To the plant must be added the two cryogenic tanks, one for LNG at -140°C and the other for CO2 at -20°C.

CHARACTERISTICS

Biogas input		
Min. flow rate	100	Nm^3/h
Max. flow rate	500	Nm^3/h
Min. pressure	5,0	bar(a)
Max. pressure	12,0	bar(a)
Temperature	35	°C
H2O	10	ppm

LNG production		
Flow rate	253	Nm^3/h
	200	kg/h
Temperature	-154 / -145	°C
Pressure	3 - 4	bar(a)
PCS	*	$Kcal/Nm^3$
PCI	*	$Kcal/Nm^3$
Wobbe	*	MJ/Nm^3

CO2 production		
Flow rate	200	Nm^3/h
	380	kg/h
Temperature	-20 / -25	°C
Pressure	3 - 4	bar(a)
PCS	*	$Kcal/Nm^3$
PCI	*	$Kcal/Nm^3$

(*) As per specifications

BENEFITS AND EMISSION REDUCTIONS OF LNG	**CO2** Carbon Dioxide	**NOx** Nitrogen Oxides	**SOx** Sulphur Oxides	**PM** Particulates
Maritime Transport	-25%	-90%	-100%	-100%
Road Transport	-20%	-60%	-100%	-100%

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