



# BIO-LNG PURIFICATION AND MICRO-LIQUEFACTION SYSTEM

## Caratteristiche:

- Sistema integrato con polishing e liquefazione
- Nessun fluido di processo è a contatto con parti meccaniche (scambiatore di calore, no compressore o JT-Valve)
- Nessun vettore freddo circola all'esterno dell'apparecchiatura (minima perdita di calore)
- Rimozione efficiente dei gas non condensabili ( $N_2$ ,  $O_2$ ,  $H_2$ , ecc.)
- Possibilità di integrazione con impianto di upgrading
- Scalabile (consente di crescere / investire insieme alla domanda)
- Elevata produttività (>8.400 h/a), design intrinsecamente ridondante (multi-macchina)
- Esperienza sul campo e ampia rete di assistenza in tutto il mondo (apparecchiature approvate da BV, ABS e USCG)

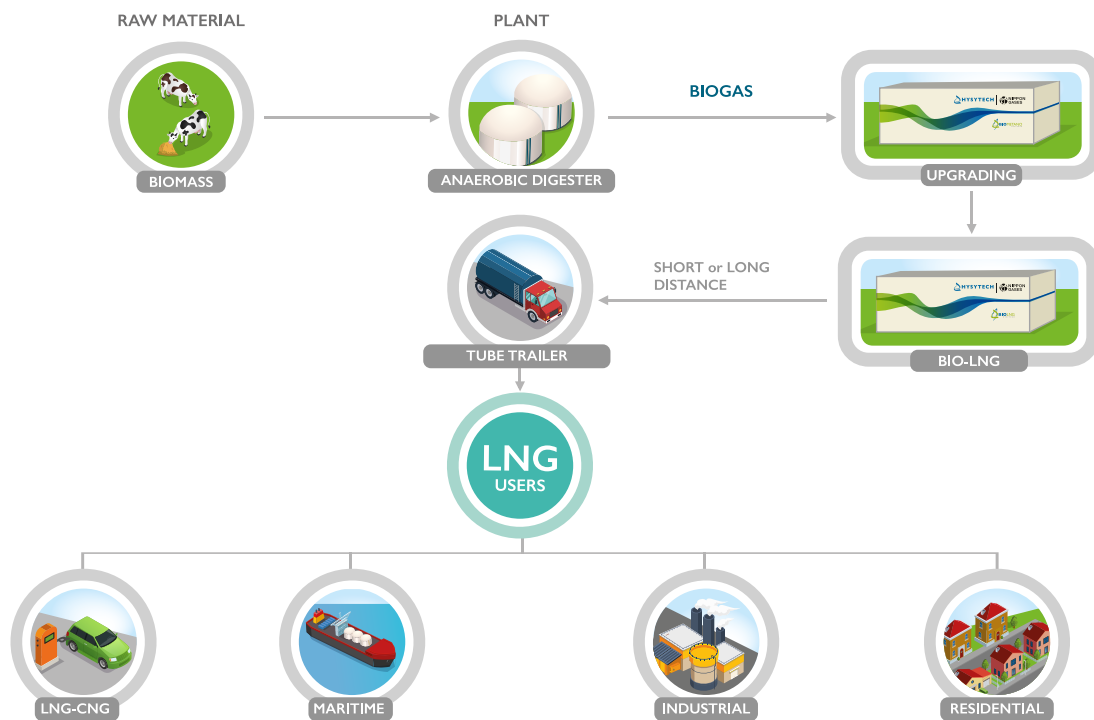
## Features:

- Integrated system with polishing and liquefaction
- No process fluid is in contact with mechanical parts (heat exchanger, no compressor or JT-Valve)
- No cold vector circulates outside the equipment (minimum heat leak)
- Efficient removal of non-condensable gases ( $N_2$ ,  $O_2$ ,  $H_2$ , etc.)
- Possibilities to integrate with biogas upgrading plant
- Scalable for future growth (allows to grow/invest along with demand)
- High uptime (>8.400 h/y) and intrinsically redundant design (no single machine)
- Experience from the field and broad assistance network worldwide (equipment approved by BV, ABS and USCG)



## TECHNICAL DATA

- Low operating pressures from 6 to 20 barg while delivering LNG product at low pressures (LNG@ 2-4 barg or lower)
- “Plug and play” and modular design
- Standard modules from 1 and up to 20 tpd, others upon request
- Energy efficiency: as low as 0,60 kWh/kg LNG (Stirling cycle)



### EXAMPLE CONFIGURATION

#### Example of 5 tpd plant configuration:

- LNG production capacity: 5 tpd
- LNG delivery pressure: 2-4 barg (lower upon request)
- Biomethane input: up to 300 Sm<sup>3</sup>/h
- Biomethane inlet pressure: 6-18 barg
- Power consumption (Stirling cycle): 0,62 kWh/kg
- Power consumption (including chilled water): 0,89 kWh/kg
- Fully automatic & unmanned

#### Example of 9 tpd plant configuration:

- LNG production capacity: 9 tpd
- LNG delivery pressure: 2-4 barg (lower upon request)
- Biomethane input: up to 540 Sm<sup>3</sup>/h
- Biomethane inlet pressure: 6-18 barg
- Power consumption (Stirling cycle): 0,61 kWh/kg
- Power consumption (including chilled water): 0,87 kWh/kg
- Fully automatic & unmanned

