

# HYDROGEN-TO-SNG (H2tSNG)

630 kW<sub>th</sub> turn-key system

**ETOGAS**  
smart energy conversion

**Turn-key system** for the conversion of hydrogen (H<sub>2</sub>) and lean gases to synthetic natural gas (SNG):

- modular & scalable design, ready for outdoor installation
- CAPEX optimized
- conversion efficiency near thermodynamic optimum

## ETOGAS' PROPRIETARY METHANATION TECHNOLOGY

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- > patented fixed-bed plate reactor

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- > high gas quality: up to 99% CH<sub>4</sub>

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- > broad variety of CO<sub>2</sub> / feed-gas sources applicable

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- > utilize process heat in form of water / steam

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## VALUE PROPOSITIONS

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- > **H2tSNG systems provide a second life for waste CO<sub>2</sub> and enable closed carbon loops:**  
a variety of lean gas types can readily be converted to grid-compliant SNG or pure methane

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- > **By utilizing lean-gases, H2tSNG systems enhance feedstock efficiency in industrial production processes**

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- > **H2tSNG systems produce an advanced renewable fuel** with exceptionally low carbon footprint and feature cost-effective solutions for climate-neutral mobility

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**INPUT**

Hydrogen	250 Nm <sup>3</sup> /h, individual size on request
Feed Gas (CO <sub>2</sub> )	62.5 Nm <sup>3</sup> /h CO <sub>2</sub> or in gas mixture with equivalent CO <sub>2</sub> content (e.g. raw biogas or CO/CO <sub>2</sub> from chemical/technical processes)
Tap Water	depending on Feed Gas composition

**OUTPUT**

Synthetic Natural Gas (SNG)	62.5 Nm <sup>3</sup> /h (in addition to Methane contained in the Feed Gas)
Steam	approx. 110 kW <sub>th</sub> at 250 – 300 °C (70 bar)

**SCOPE OF SUPPLY / FEATURES**

Load Range	70% – 100%
SNG Properties	compliant with DVGW G260, 262 (L-gas, H-gas)
Total Footprint Area	20 m x 30 m
Temperature Range (Outdoor)	-20 °C up to +40 °C
Control System	Siemens S7 PLC (PCS 7 optional), Profinet/-bus
Lifetime	20 years
Design Standard	CE certificate

**METHANATION**

Reactor Type	fixed-bed plate reactor
Operating Pressure (SNG Output)	7 – 8 bar
Cooling System	water/steam at approx. 70 bar

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