

CLEAN CARBON  
CONVERSION AG  
Energize Waste™



# UHTH®

ULTRA HIGH TEMPERATURE HYDROLYSIS

The innovative  
solution

[www.cleancarbonconversion.com](http://www.cleancarbonconversion.com)

A.

## Deriving **value** through **thermal conversion**

The patented, one-step **UHTH**® process allows for maximum feedstock flexibility with minimum constraints and no emissions.

### Great feedstock flexibility:

The innumerable waste streams treatable with the **UHTH**® plants embrace nearly all organics, including toxic, non-toxic, infectious, hazardous and dangerous materials.

They can range from plastics, industrial and agricultural by-products, municipal garbage, sewage sludge or toxic liquids, to hospital waste and end-of-life cycle products etc.



### Simple feedstock requirements:

The **UHTH**® plants can process feedstock with a retained moisture of ideally 20-30% and in a size of approx. 1.5cm<sup>3</sup>.

### Confide in know-how and experience

CleanCarbonConvesion's fundamental expertise gained through many years of activities in the field, provides project support by drawing from a vast archive of validated test data of numerous different waste streams.

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# Harnessing waste to its full capacity

Up to  
**99%**

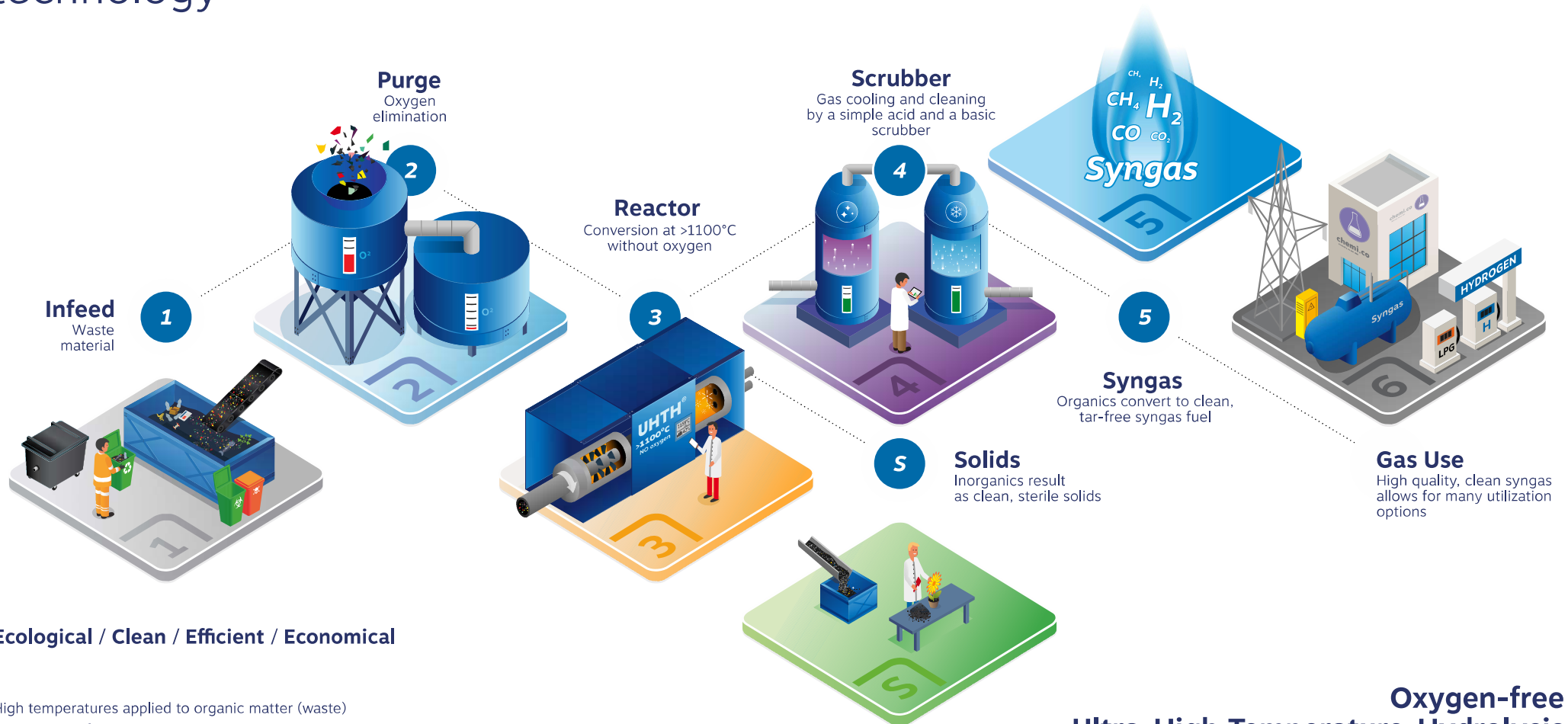
**Highest possible energy recovery in the form of clean, tar-free syngas.**

Only organic (carbonaceous) matter converts to syngas, therefore it is advisable to segregate inorganic fractions (glass, metals, etc.) prior to the **UHTH**® treatment.



B.

## The UHTH<sup>®</sup> vanguard waste-to-energy technology



**Ecological / Clean / Efficient / Economical**

High temperatures applied to organic matter (waste) in an oxygen-free environment converts:

- Organics into **clean syngas**
- Inorganics into **clean solids**

**Oxygen-free  
Ultra-High-Temperature-Hydrolysis**  
The brilliant breakthrough in waste management

C.

## The sustainable result

The energy-rich, ready-to-use syngas produced with the **UHTH**<sup>®</sup> plant is a very clean, tar-free, purer gas than any other comparable technology provides.



# Clean Syngas

Generally, at about half the caloric value of natural gas syngas is always made up mainly of Hydrogen (H<sub>2</sub>), Carbon Monoxide (CO), Methane (CH<sub>4</sub>) and very little Carbon Dioxide (CO<sub>2</sub>).

### Syngas utilization:

Syngas is a valuable, clean, H<sub>2</sub>-rich, ready-to-use fuel with many applications, for example:

## UHTH<sup>®</sup> benefits:

### Ecological

- Emission-free (no smoke stack)
- Clean, sterile residue
- Meeting most stringent environmental regulation
- On location, decentralized operation
- Cleaner gas than any comparable technology
- CO<sub>2</sub> neutral

### Efficient

- Total conversion of organics to syngas
- Highest possible energy recovery per processed ton
- Recovery of all valuable constituents possible
- Closed circuit, one-step process
- Fully automated operation

### Clean

- Pollution-free
- No dioxines or furans

### Economical

- Gains from syngas and off-heat utilization
- Low energy requirement
- No chemical adjuncts or additives required
- Low investment, operation and maintenance costs
- Adaptable, modular, easily multipliable setup with small footprint
- Savings in waste transport and disposal costs



Direct use  
to fuel a burner



Electricity  
production



Hydrogen  
extraction



Chemicals  
production



Liquid  
fuels

### Clean solids:

Whereas organic matter converts to syngas, the inorganic part of the feedstock is ejected at the end of the process as a clean sterile, sand-like solid that can easily be reused or disposed of.

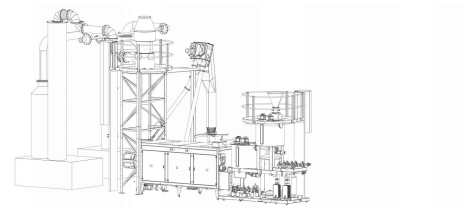
**D.**

## The UHTH<sup>®</sup> solution crafted in Switzerland

The certified UHTH<sup>®</sup> modules are compact, flexible, with a small footprint and can be easily multiplied to meet capacity requirements.

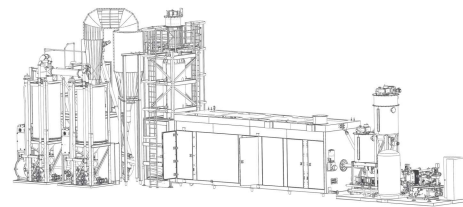


### UHTH<sup>®</sup> T5 module



**Capacity:** 5 t/day (1600 t/year)\*  
**Operating temperature:** >1100°C  
**Operation mode:** Fully automatic  
**Syngas:** 1.4-4.8 million Nm<sup>3</sup>/year\*  
**Dimensions:** 13 x 3 x 5 m (L/W/H)

### UHTH<sup>®</sup> T25 module



**Capacity:** 25t/day (8000 t/year)\*  
**Operating temperature:** >1100°C  
**Operation mode:** Fully automatic  
**Syngas:** 7.2-24 million Nm<sup>3</sup>/year\*  
**Dimensions:** 25 x 6 x 10 m (L/W/H)

\*Feedstock dependent

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