



# Our Solutions

part of NSI Anaerobic Solutions



#missionwater

# Econvert Water & Energy

Specialists in anaerobic wastewater and biogas treatment

Econvert Water & Energy, well-known for its technological knowledge in the field of anaerobic waste water treatment and biogas desulphurization, is the ideal partner for companies in food, beverage, beer, pulp & paper, chemicals and pharma. Our solutions enable you to deal with effluent in an environmentally friendly way.

By use of our technology, wastewater becomes a valuable source of energy, in a world where energy becomes more and more scarce.

Our highly skilled team works on a day-to-day basis to provide you with the best solutions in the most efficient way. A continuous endeavour to perfect the art of reuse, that is our commitment to **#missionwater**.



**Pulp  
& Paper**



**Food &  
Beverage**



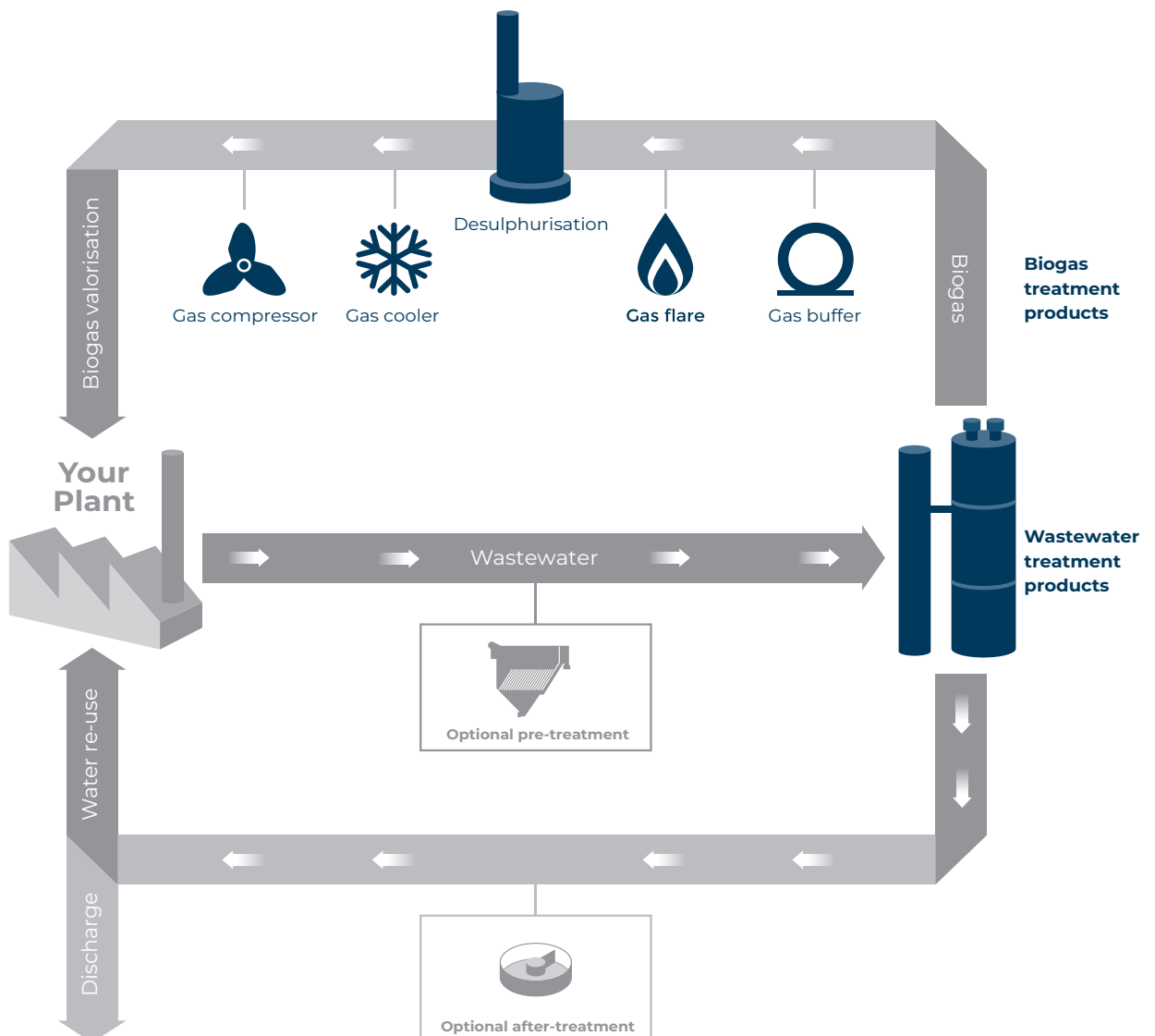
**Chemicals &  
Pharmaceutical**



# The process

## Why use anaerobic technology for wastewater?

- High return on investment
- Up to 90% savings on discharge costs
- Low operational costs and low maintenance
- Renewable energy recovery from wastewater

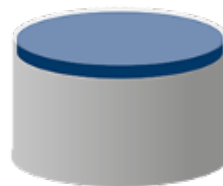


# Econvert – UASB®

The Econvert-UASB® The old school solution. Proven for decades and never fully replaced. The robust configuration enables the handling of large varieties in both volume and composition.

## Functionality

- Balanced influent feed system for even distribution of wastewater
- Sludge extraction system to remove heavy sludge
- Modular three-phase separators for effective separation of solids, gas and treated wastewater
- Biogas collection in gas hoods, connected to your biogas valorization system
- Top deck made of UV-stabilized PPC material
- Also in fully gas-tight option to prevent from odor nuisance



### Econvert UASB®

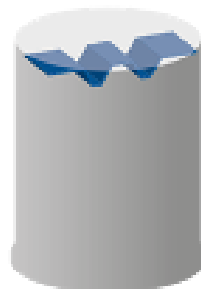
- Footprint: LARGE
- Height: < 8 m
- Loading rate: <15 (kg COD/M3/d)
- Upflow velocity: LOW

# Econvert – EGSB®

Econvert-EGSB® is the optimized compromise. Combining a small footprint with few internals. The unique settling system of the reactor has proven to retain solids also in high flow.

## Functionality

- Intense mixing of influent and external recirculation resulting in optimum COD concentrations
- Adjustable up-flow velocity to adapt to specific circumstances
- Multiple influent lines that can be adjusted individually: congestion control
- Completely gas-tight systems: no odor nuisance
- Biogas is collected in the head space of the reactor and forwarded for valorization
- Patented three-phase separators designed for handling high water flows



### Econvert EGSB®

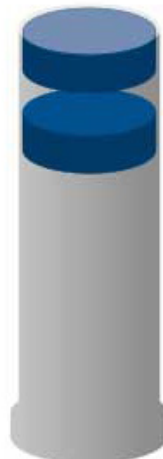
- Footprint: MODERATE
- Height: >10 m
- Loading rate: <25 (kg COD/M3/d)
- Upflow velocity: Moderate

# Econvert – IR<sup>®</sup>

Econvert-IR<sup>®</sup> - The high performer. Designed to create the ideal process conditions. The two-stage settling system enables internal recirculation. Due to this high COD concentrations can be treated and optimal biological conditions are secured.

## Functionality

- Internal and external recirculation provide optimal dilution
- Patented mixing chambers avoid overloading of the bacteria
- Better influent distribution through the patented influent system
- Heavy sludge discharge points to prevent clogging
- Polishing section between the upper and lower settling stage
- Able to deal with high calcium concentrations



### Econvert IR<sup>®</sup>

- Footprint: SMALL
- Height: >20 m
- Loading rate: <35 (kg COD/M3/d)
- Upflow velocity: High



Take a look at  
one of our projects

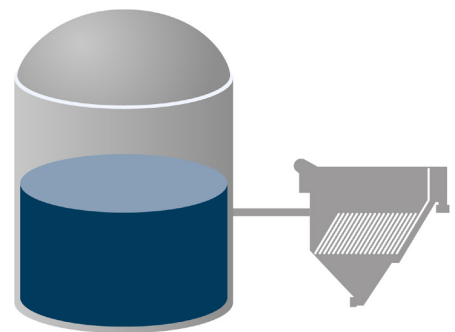
Scan QR to see our movie  
of Solidus Solutions

# Econvert – DGF®

Econvert-DGF combines waste and wastewater in one single process. The Econvert-DGF system is a revolutionary and highly innovative solution, especially tailored for food and beverage plants to effectively treat raw wastewaters that contain high TSS and FOG concentrations. Additional benefits can be realized when the plant also digests factory wastes.

## Functionality

- Turns a (waste)water treatment plant into a power generator.
- A single step process solution to convert a mix of wastewater and organic wastes in one anaerobic reactor into a energy source.
- No pre-treatment required, resulting in lower OPEX.
- Highly adaptable to local requirements and conditions.
- Simple and stable process.
- Use of proven technologies like digestion and dissolved gas flotation.
- Less intensive bio treater resulting in a smaller footprint and lower OPEX for polishing.



# Econvert – Dsulph<sup>®</sup>

Econvert-Dsulph<sup>®</sup> is the perfect blend of biology and chemistry. Biogas typically contains H<sub>2</sub>S, a component harmful to you and your equipment. This desulphurization unit combines the chemical absorption of H<sub>2</sub>S in the scrubber with the biological recovery of elemental sulphur in the bioreactor.

## Functionality

- H<sub>2</sub>S removal rates of over 99% can be achieved
- Low operational costs due to regeneration of alkalinity in the bioreactor
- Production of high grade elemental sulphur
- No oxygen or nitrogen is added, therefore the biogas quality is maintained
- Low risk on clogging in scrubber, as no biological activity takes place there



### We offer also following biogas treatment products:



#### **Biogas Buffers**

Biogas buffers for stabilizing pressure and/or storing biogas



#### **Flares**

Emergency flares and high temperature flares for safe excess gas treatment



#### **Biogas Blowers/Compressors**

Increasing pressure by means of side channel or roots blowers



#### **Biogas Cooling/Drying**

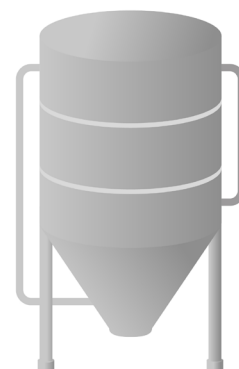
Biogas cooling/drying for lowering the dew point

# Econvert – RTF<sup>®</sup>

The Econvert – RTF<sup>®</sup> is the ultimate power reactor. It achieves high H<sub>2</sub>S removal efficiency, consumes no caustic soda and could reuse aerobic effluent. The new technology prevents clogging by automated cleaning of the filter bed. The best of two worlds: high output, low maintenance.

## Functionality

- Efficient removal of H<sub>2</sub>S, efficiency up to 99%
- Resilient desulfurization technology enables direct use of the biogas
- Less risk for clogging, due to recirculation
- 'Cleaning' the filter bed, less need for maintenance



# Rental installations

We understand that CAPEX is not always readily available to invest in effluent treatment, or that you may want to avoid long-term financial commitments. In such situations, we still make it possible for you to reap the benefits of our technology. We can offer rental solutions that allow you to immediately enjoy the benefits of our technology without having to make substantial investments.

Long term contracts can be agreed, as well as short term 'peak shaving' of excessive load on your existing effluent treatment system. As we want to contribute to the widespread use of anaerobic treatment, we offer flexible solutions.



## Advantages

+

Off-balance  
solution

+

Turn-key  
installation

+

Fully  
automated

+

Low maintenance  
needs



# Our Service Palette

You want to keep your wastewater treatment plant in the best condition. In the end, it's not the equipment that treats the water, it's the process. We assist you with optimizing your treatment process in many ways. Because only then you can really benefit from your investments.

## → Expert services

- Consultancy
- Audit
- Inspection
- Troubleshooting
- Analysis
- Pilots

## → Maintenance & spare parts

- Maintenance
- Spare parts supply

## → Service projects

- Upgrades
- Retrofit
- Repair

## → Consumables

- Biomass
- Nutrient mix
- Start-up chemicals



Part of



Discover our water solutions and services portfolio:  
[www.nijhuissaurindustries.com/solutions/](http://www.nijhuissaurindustries.com/solutions/)

**#missionwater**

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