

***thöni***®

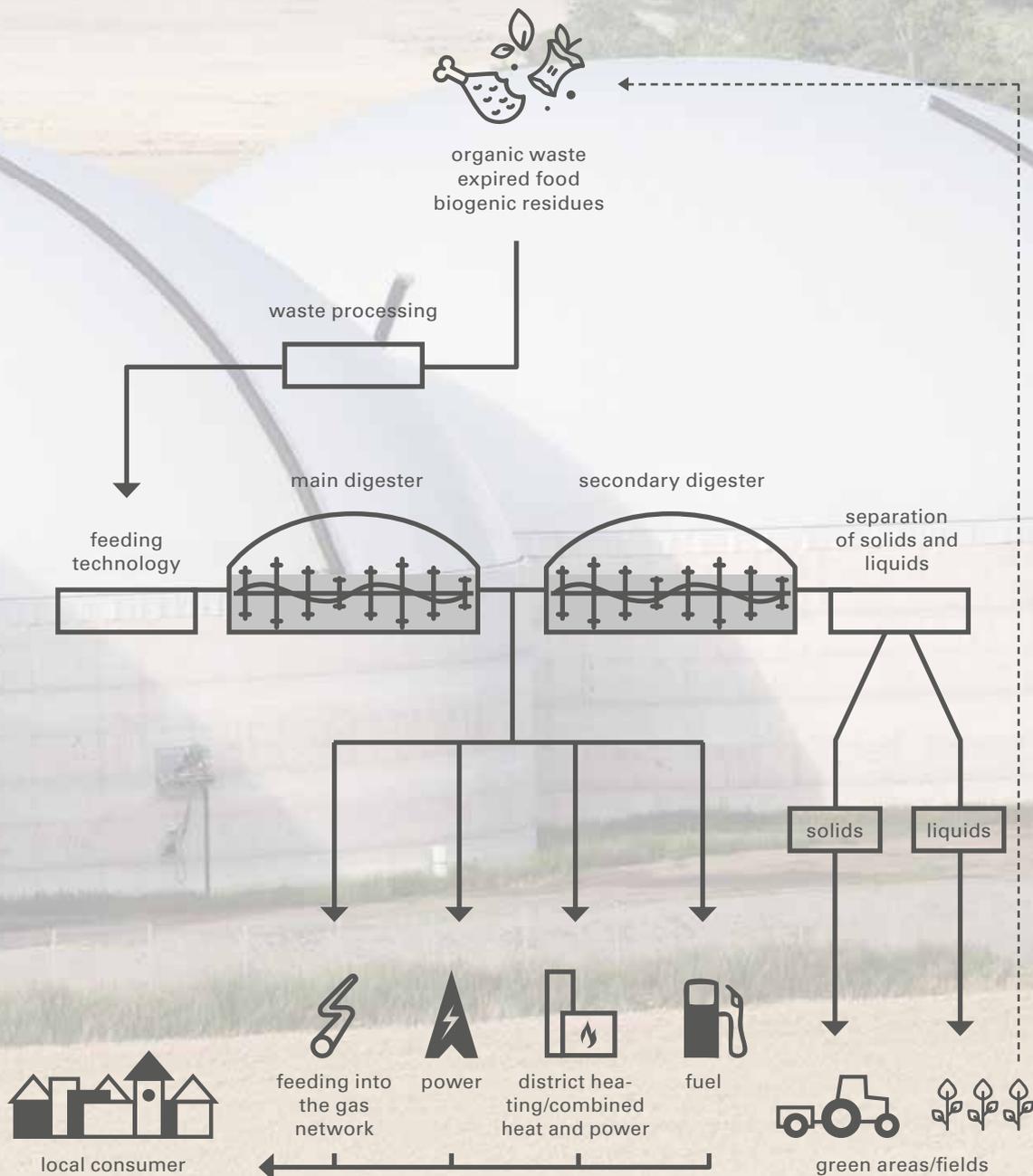
# TNV THÖNI WET DIGESTION SEMI-DRY

Putting organic waste to good use



# There is Power in Organic Waste:

We use food waste to generate power, heat, bio-methane, and fertilizer!



# Farsighted Power Generation!

## Innovative Solutions for Biogas Plants

### TNV Thöni Wet Digestion SEMI-DRY generates valuable Bioenergy from Food Waste

Thöni Umwelt Energietechnik is an experienced specialist in the production of bioenergy from organic waste, packaged food waste and biogenic waste, e.g. from agricultural production. Our innovative solutions are based on over 30 years of experience in the construction and operation of biogas plants. We aim to ensure the constant and excellent quality of our products, so we build all key components in our own workshops.



### Fully developed Technology for maximum Biogas Yields

The latest generation of TNV Thöni Wet Digestion Semi-Dry ensures high flexibility in the use of organic input materials and is the result of many years of experience in Semi-Dry digestion.

The core of the technology is the digester, which is continuously filled with liquid and solid input materials using special feeding technology.

### Preparation and Feed Technology

Delivered input materials are shredded, freed of impurities, and fed into an intermediate container where they are mixed and homogenized. From there, the processed material mixture is pumped into the digester.

The TNV Thöni feed hopper module feeds solid material into the digester. The substrate is fed automatically into the digester via screw conveyors in measured quantities using an integrated weighing system.

### Optimal Feeding of the Digester

Input materials with a high level of dry matter content

Flexible feeding technology

Homogenization of difficult substrate mixtures

Low maintenance requirements

### A LEADING EDGE THROUGH EXPERIENCE:

Thöni has been building innovative waste treatment plants for over 30 years



It is a strong, independent family business



It can point to over 100 MW of installed capacity



It has successfully built over 100 biogas plants



## The TNV Digester

The basic structure of the TNV Digester is a thermally insulated, cylindrical body covered by a double-membrane gas storage.

The digester is equipped with several energy efficient Thöni paddle agitators that efficiently mix different types of input material containing a very high level of dry matter.

The material is kept in motion and homogenized with the specially designed paddles so that heavy impurities do not accumulate at the bottom of the digester and potentially suspended solids do not form any floating layers.

## Optimal Utilization of Input Material

Optimal mixing of the digester content

High level of substrate decomposition

Optimal biological conditions  
(by means of optional two-stage process control)

Minimum power consumption of the plant  
due to low speed of the agitators

Low maintenance costs

Robust and durable construction



A team of highly qualified specialists



In-house production of key components



From planning to commissioning



Thöni CARE ensures successful plant operation

## The Control Centre, Plant Operation at a Glance

Prefabricated, "ready-to-go" plant modules guarantee maximum flexibility and simple, quick assembly

Robust and low-wear displacement pumps perform all of the plant's pumping functions

Heating distributors give out heat to digester heating systems

Proven control technology

Modular design of the control cabinets

Central process control system

## Pump Technology and Plant Control

The central pumping station, the heating distribution system and the electrical control systems are all housed either in the Thöni technical container or in an intermediate building. From this location, the operator can centrally control all important aspects of plant operation and intervene at any time.

The pumping station, which is designed especially for this purpose, makes it possible to pump liquids and substrates economically and efficiently from one place to the other via all combinations of pumping paths. This saves energy, time and costs and has a positive effect on plant operation.

Electronic instrumentation and controls are State-of-the-Art and guarantee precise plant operation and monitoring of every single component, from preparation to separation.



## Digester Heating

The even heating of the substrate in the digester is carried out by a system with several independent heating circuits.

The stainless steel heating pipes are equipped with a patented flexible fastening system on the inside of the digester wall, which optimally compensates for their thermal expansion. The corrosion resistant heating pipes are separated galvanically by plastic sockets from the rest of the system, ensuring longevity.

The Thöni heating system and the Thöni paddle mixer guarantee ideal, even and efficient heat distribution within the digester.

## Thöni CARE – Service from the Biogas Professional

The successful operation of your biogas plant is very important to us. We take care of your plant after construction and commissioning – all year round!

The Thöni CARE package guarantees a comprehensive process engineering service along with biotechnological advice for a successful operation of your plant. Today, tomorrow, always!

Teaming up with us means multiplying your success! Thöni – your competent partner.

### SERVICE THAT PAYS OFF:

High level of plant utilisation

Seamless monitoring of digester biology

Maximum energy production

Low maintenance costs

Low operating costs

# BENEFITING PEOPLE AND NATURE



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