

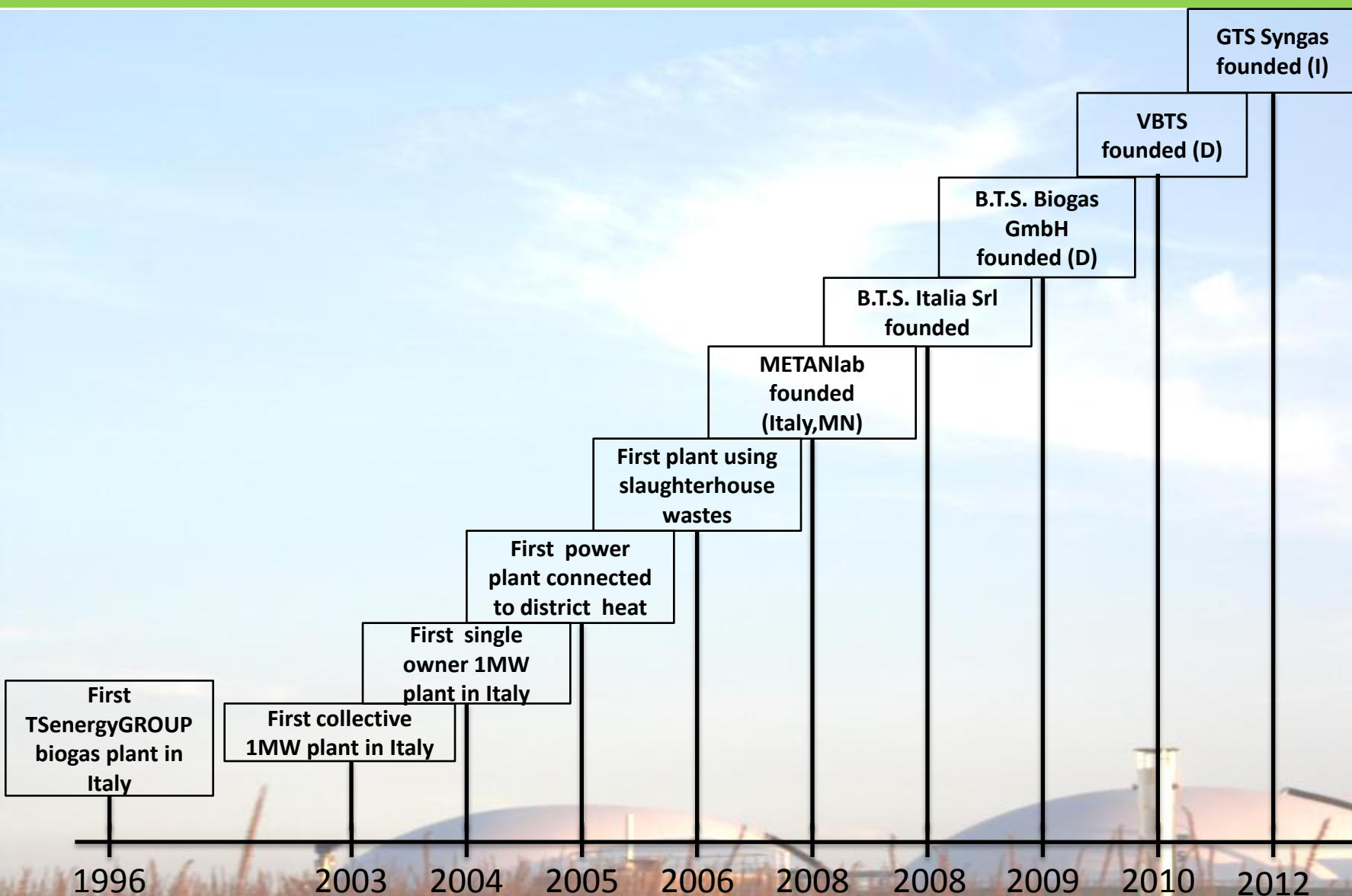
Welcome

Conference Multitalent biogas – a chance for Ukraine and their european integration

Kiew, 22th november 2012



Company: History & records

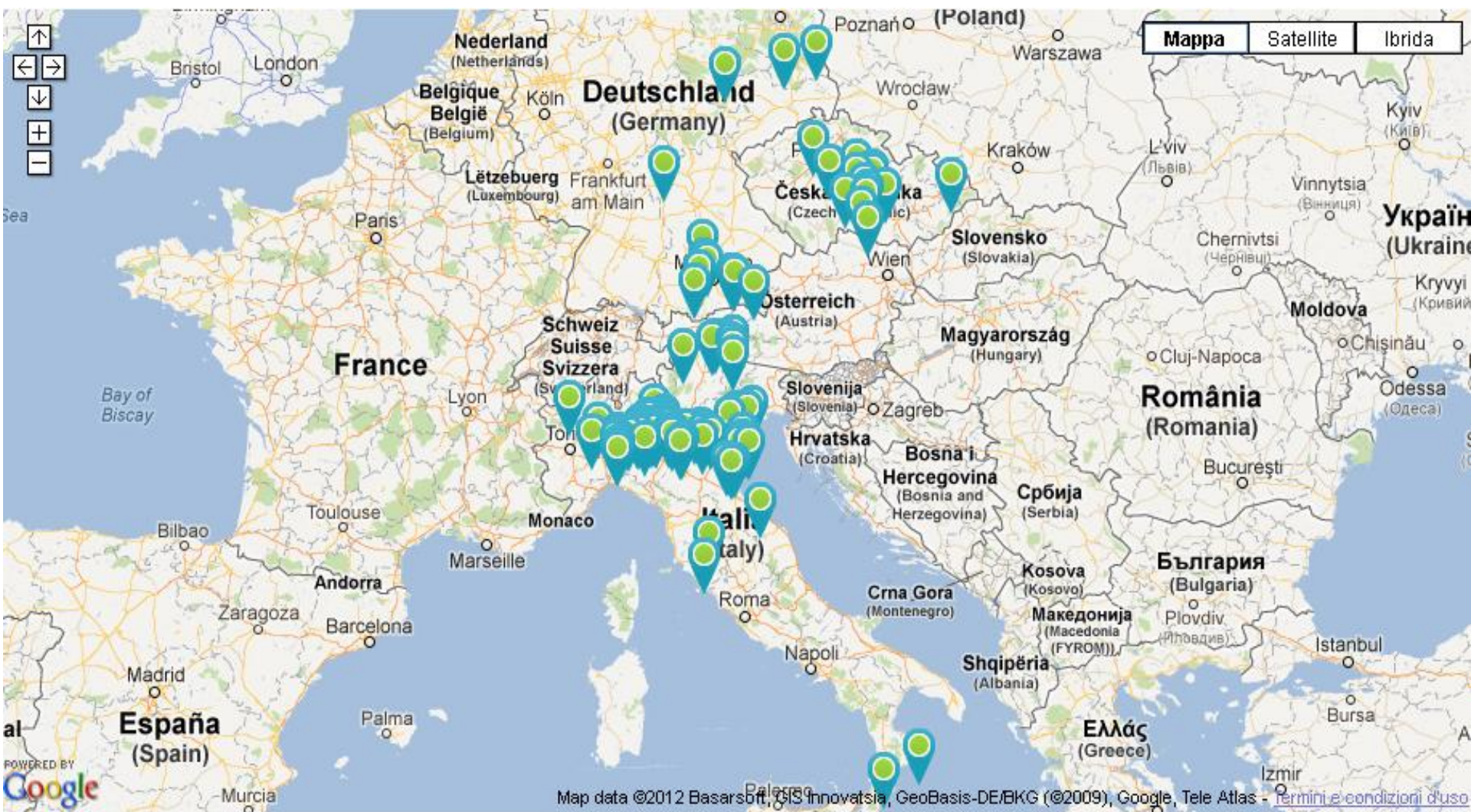


Company: Plants and projects

- Currently we have built 140 biogas power plants of different types in Europe (approx. $>100 \text{ MW}_{\text{el}}$ installed power);
- 2011 we have built approx. 70 biogas power plants in Italy, in Germany and in the Czech Republic;
- 2012 we will build and put into operation more than 60 biogas power plants in Italy and approx. 25 plants in other European countries;
- More than 90 % of B.T.S. plants are equipped with pre-treatment technology;
- In Italy 60 plants with 1-MW_{el} and 10 plants with $500 - 700 \text{ kW}_{\text{el}}$ are equipped with the BIOaccelerator.



References > 140



Company: Structure

- B.T.S. Italia is formed by:
 - ☐ Technicians
 - ☐ Biologists
 - ☐ Software engineers
 - ☐ Office staff
 - ☐ Sales agents
 - ☐ Installation and service
- First company in Italy with own biogas laboratory - METANlab



Company: METANlab



METANlab – assisted plants (91)

Startmax



32 plants

4 Czech Republic
3 Germany
25 Italy

Contimax



45 plants

0 Czech Republic
2 Germany
43 Italy

Only
biology



14 plants

11 Czech Republic
1 Germany
2 Italy

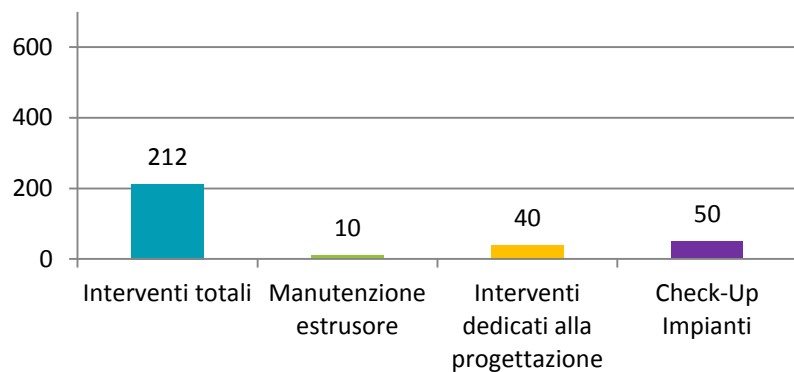
Company: Logistic Centre



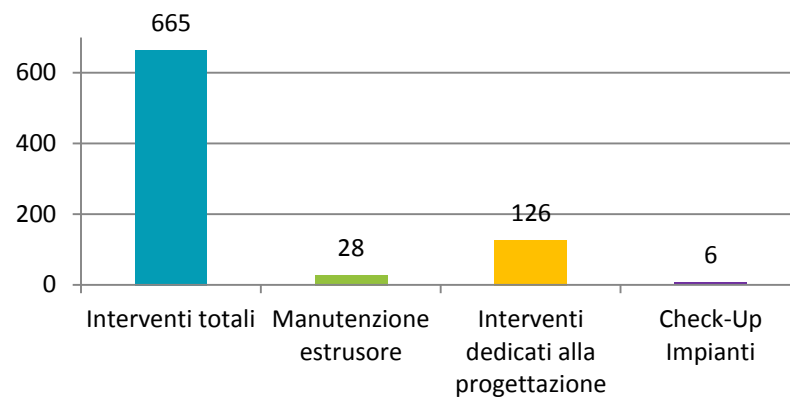
Service 24 / 7

Data

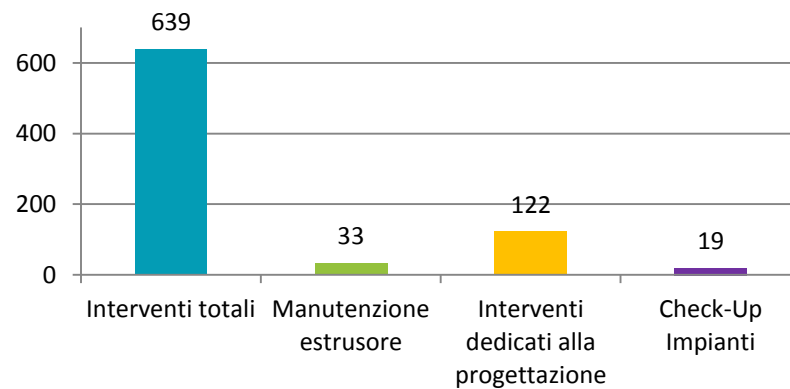
2010



2011



2012



05/2012 New logistic centre and sales offices



- 800 m² offices
- 3500 m² warehouse
- 18500 m² surface

05/2012 New logistic centre and sales offices



Company: Staff members



Our strengths



BIOaccelerator^s

BIOaccelerator^s

What is the bioextrusion?

- Cell lysis / fractionation
- Thermomechanical treatment





Cellular structure



Hemicellulose

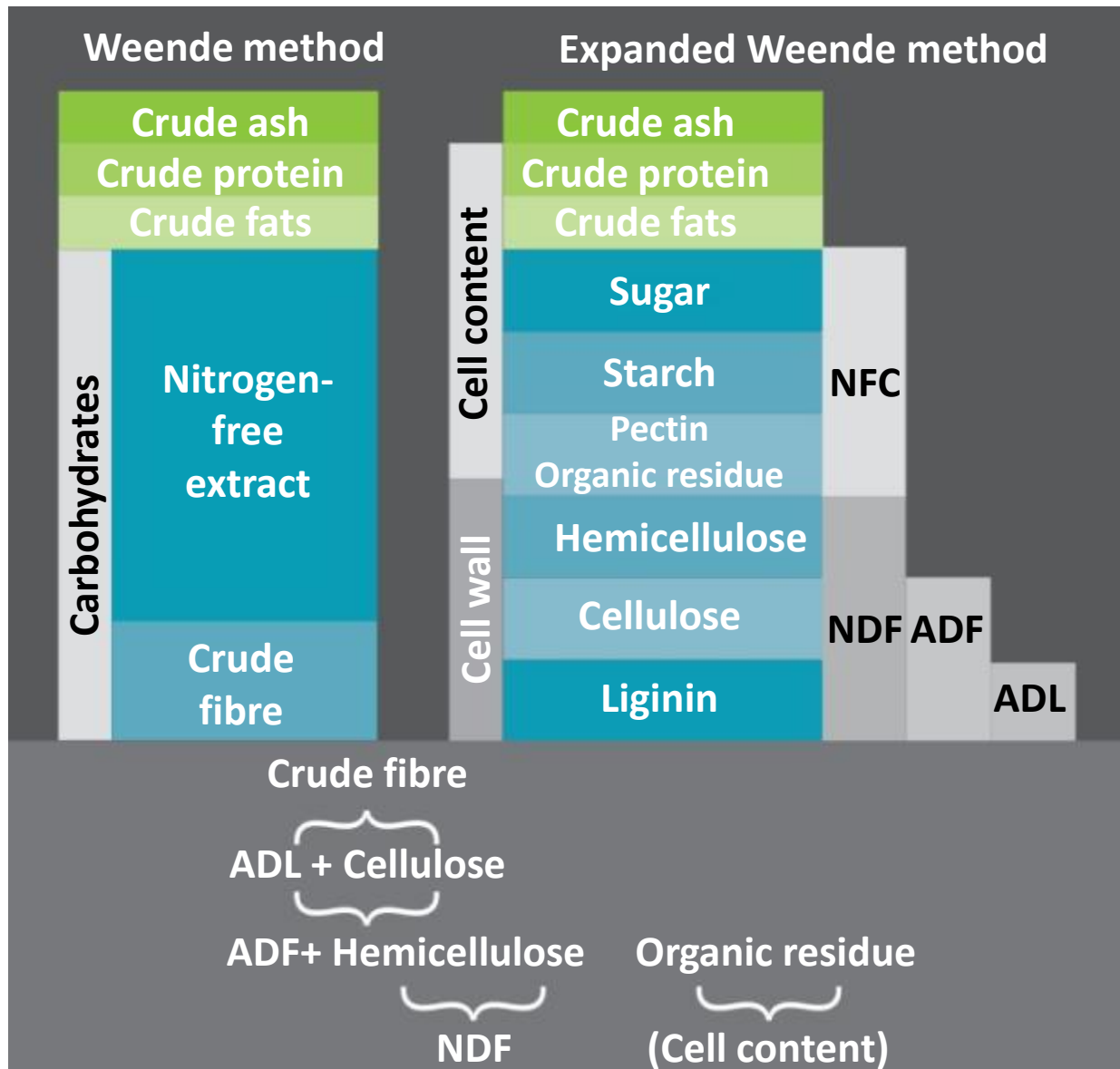
Cellulose

Lignin

Cell content



Weende Method



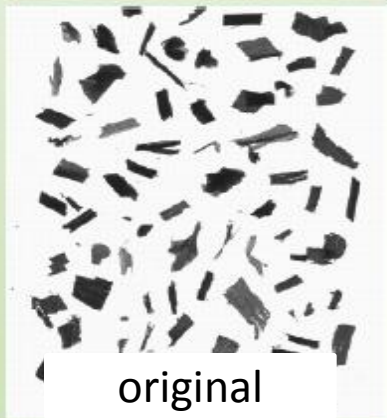
Extruded corn silage



Original corn silage



1,8



original

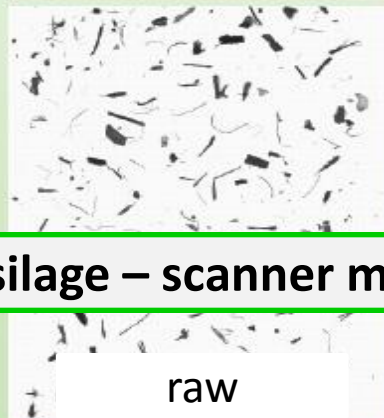


Raw corn silage



Volumenspezifische
Oberfläche (1/mm)

2,59



raw



Fine corn silage



2,83



fine

Corn silage – scanner method

BIOaccelerator^s



BIO*accelerator^s*



BIOaccelerator[®]

BIOaccelerator[®]

BIOaccelerator[®]





150 kW

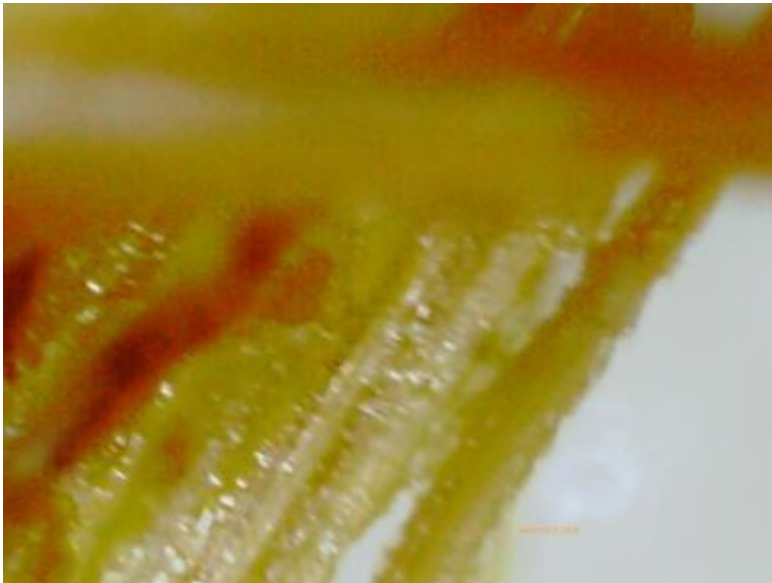


22 kW

BIOaccelerator[®]



Triticale



BIOaccelerator[®]



BIO *accelerator*^z

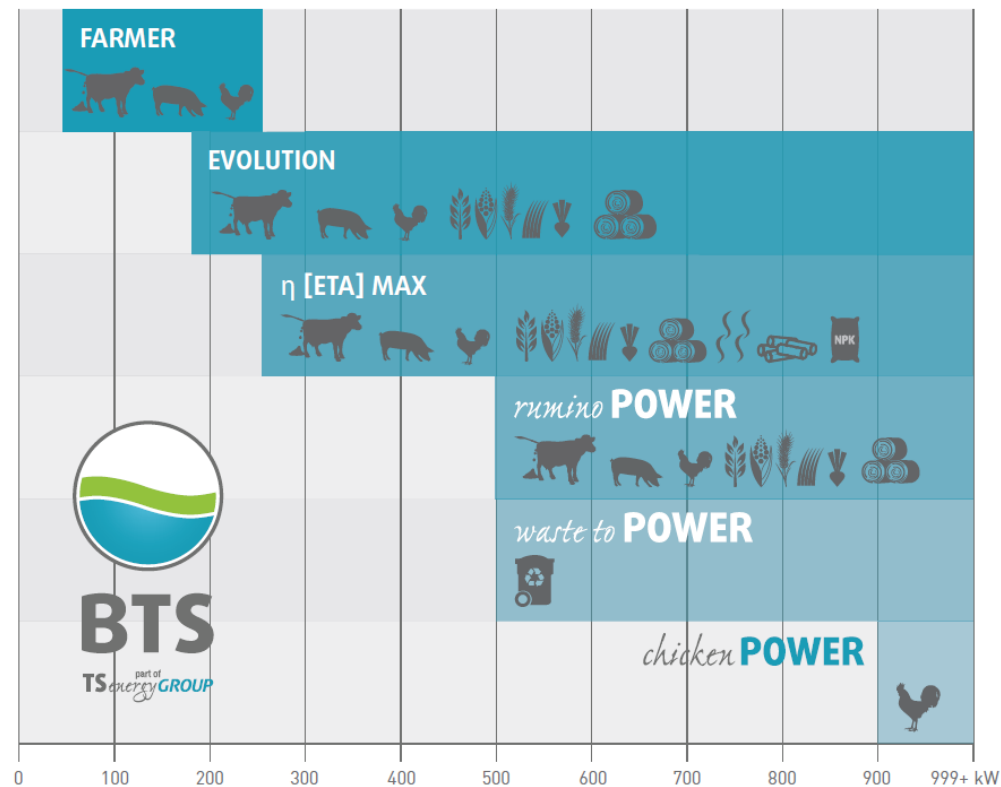
BIO *accelerator*^z

BIOaccelerator²

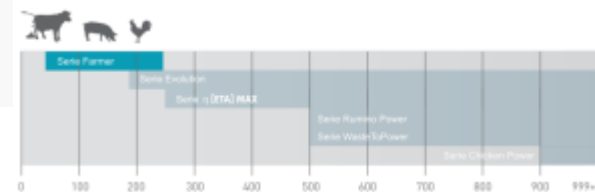
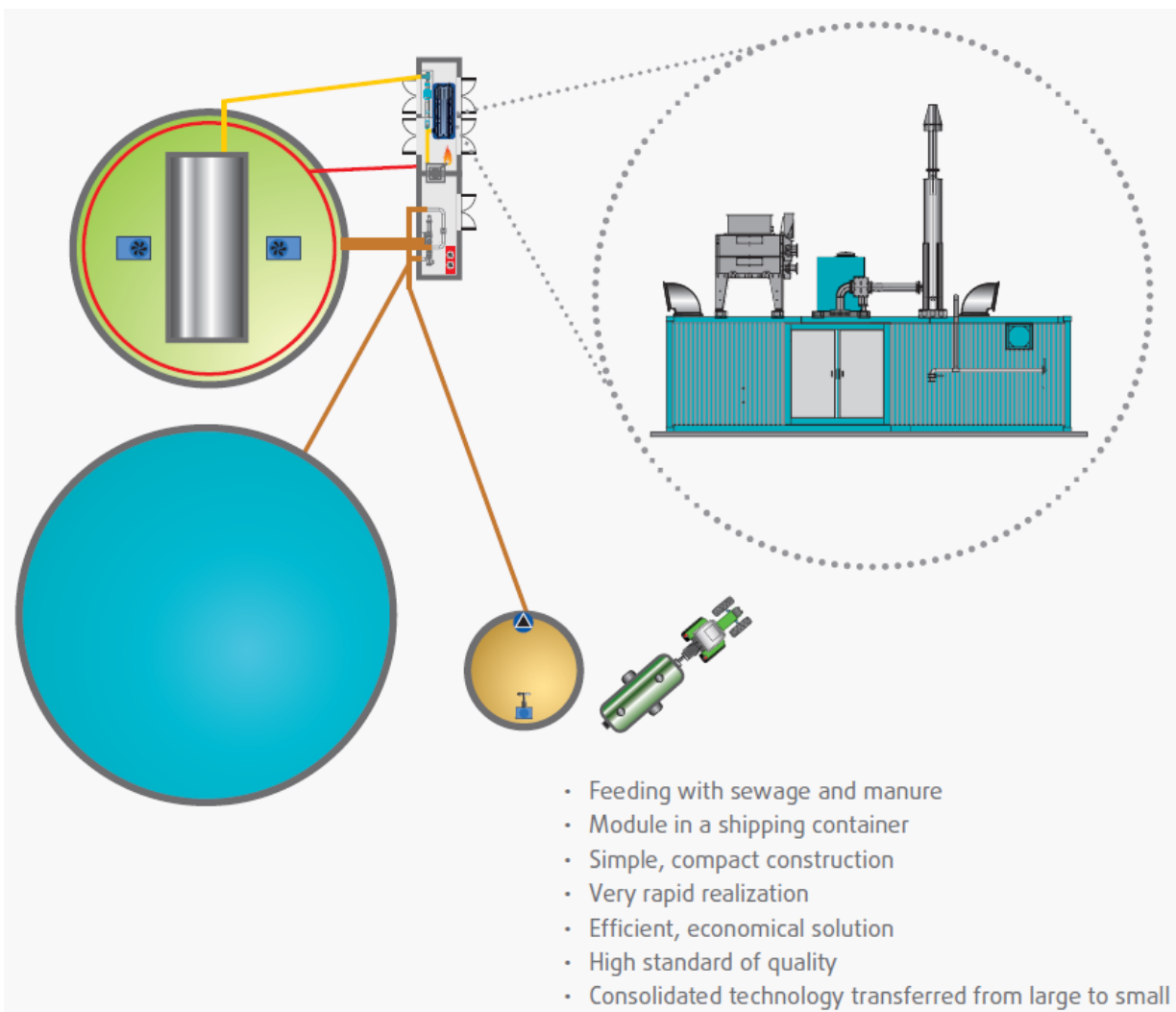




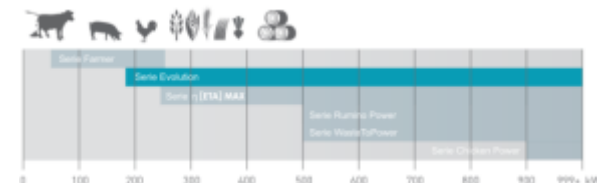
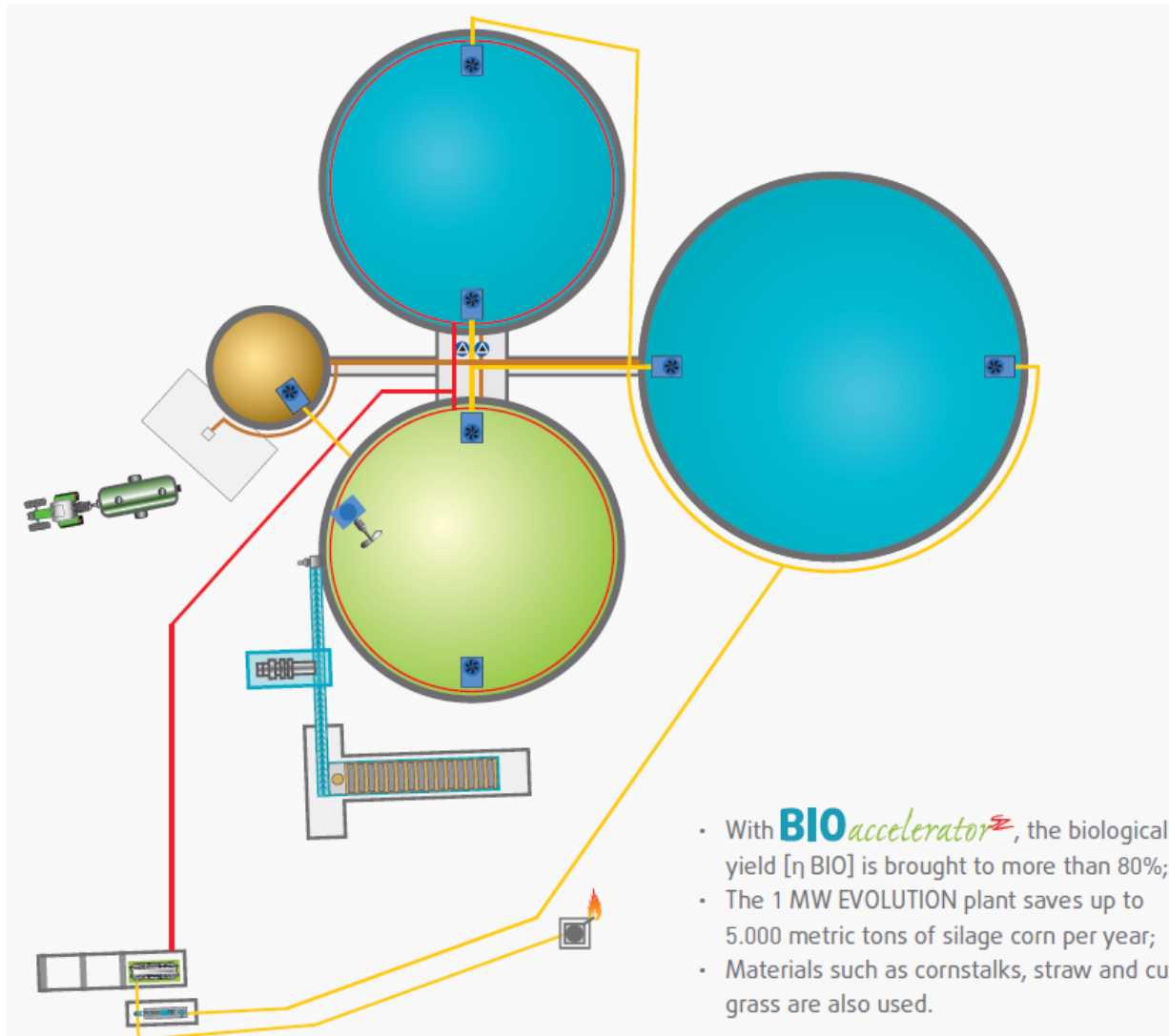
Our concepts



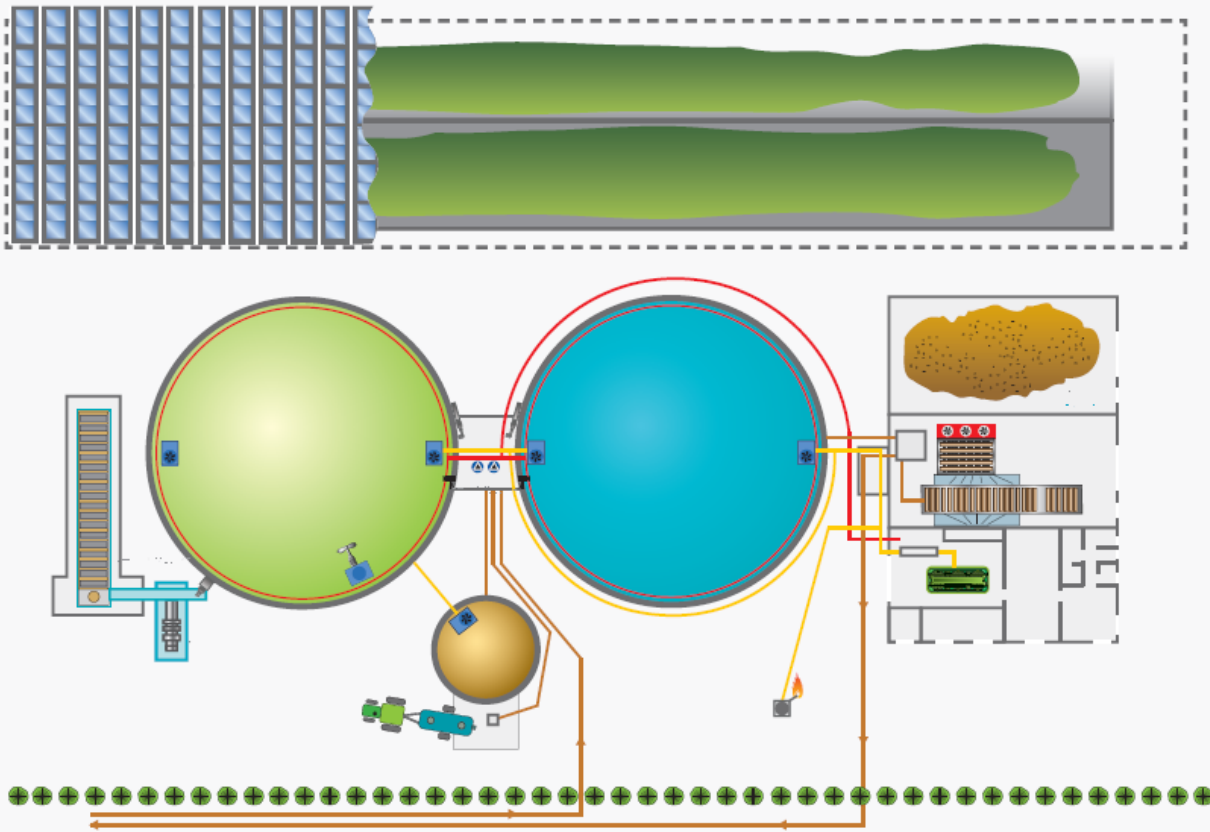
FARMER PLANT: 50|64|75|100|150|190|250 kW



EVOLUTION PLANT: 190 - 999+ kW



η [ETA] MAX PLANT: 250 kW - 999+ kW



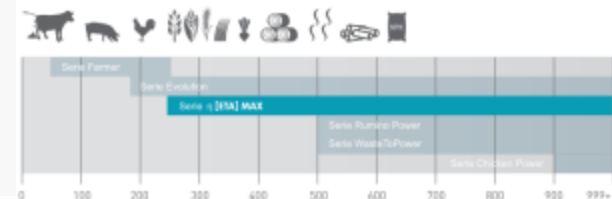
Example for a 1 MW_{el} η [ETA] MAX plant:

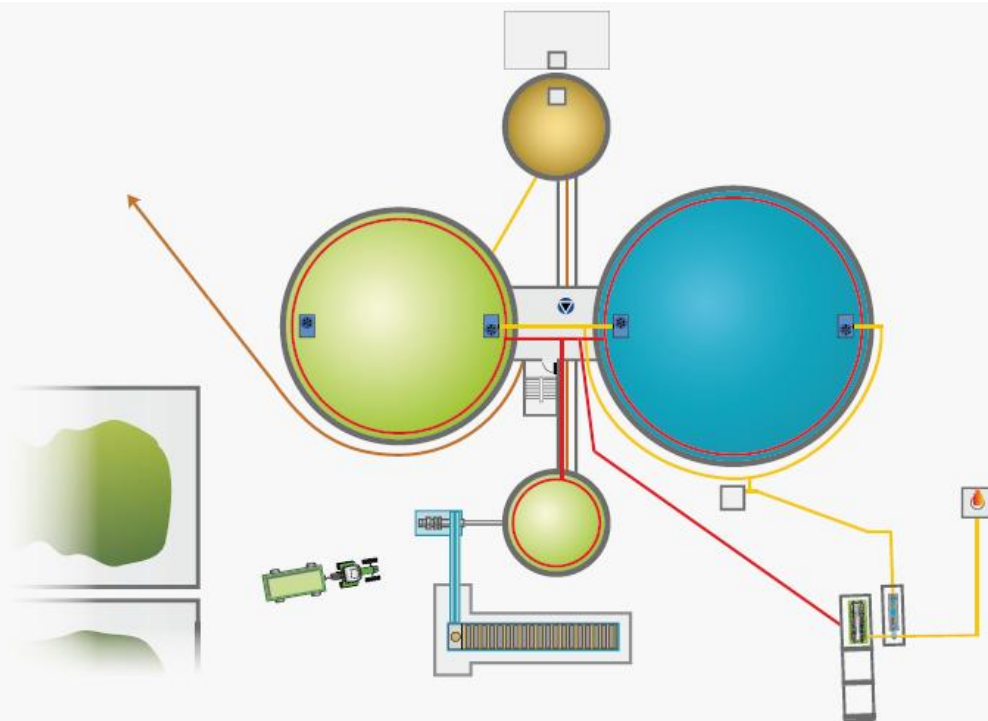
Input: 40 tons of biomass

Output: 0 tons of liquid digestate

1.000 tons of **BIOdry** (30 / 30 / 40 NPK)

500 tons of ammonium sulfate (70 kg N / T)





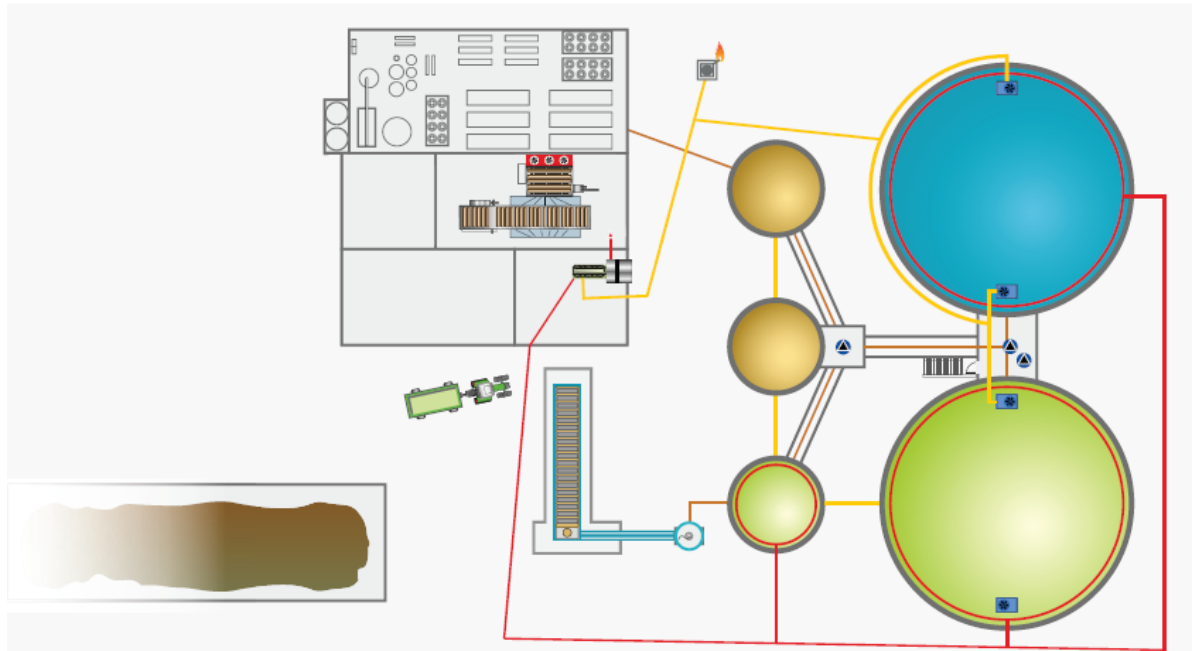
- Increase in biogas production – increase in biological efficiency (η - biol)
- Complete fermentation of cellulose and hemicellulose
- Increase in digestibility
- Reduction in fermenter volume
- Reduction in the size of the plant

→ **AND THUS A REDUCTION IN COSTS**

- Fewer tanks equals less of your own electrical and biological consumption
- A broader variety of biomass can be utilized



chicken **POWER** PLANT: 900 kW - 999+ kW



B.T.S. Italia has various methods of approach to resolve the problems of chicken droppings:

- 20% chicken droppings, without the use of additives
- 20-70% chicken droppings with the aid of **METAN max+**
- 100% chicken droppings with the *chicken* **POWER** plant

Example

for a 1 MW_{el} *chicken* **POWER** plant:

Input: 15.000 tons of chicken droppings (55% dm)

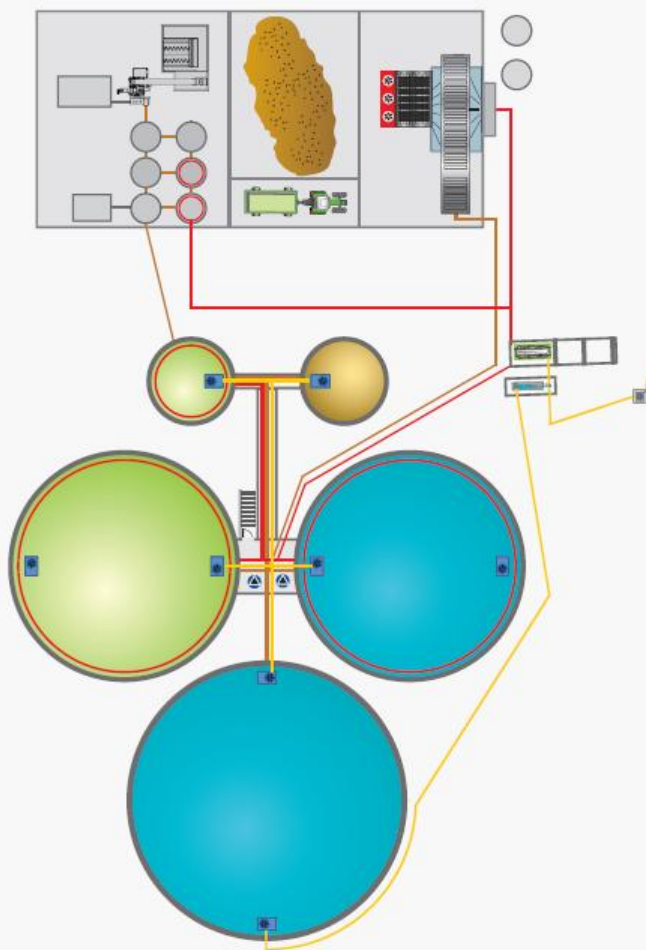
Output: 0 tons of liquid digestate

1.000 tons of **BIOdry** (30 / 30 / 40 NPK)

500 tons of **ammonium sulfate** (70 kg N / T)



waste to **POWER** PLANT: 500 kW - 999+ kW



Example

for a 1 MW_{el} *waste to* **POWER** plant:

Input: 20.000 - 30.000 tons of organic portion of urban solid waste

Output: 5.000 - 15.000 tons of liquid digestate

1.000 tons of **BIO_{dry}** (30 / 30 / 40 NPK)

500 tons of ammonium sulfate (70 kg N / T)



Projects in development

- **DinaMetan** – data bank management for optimized biological processing
- **bioMetan** – gas purification and feeding into gas distribution system
- **synGas** – wood distillation, energy recovery for wood
- **concepts for bioenergy**, communal, cities, slaughter houses, organic residues

Thanks for your attention!

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