

# Energy with care about nature

Design, construction, and service of biogas plants



# Energy with care about nature

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Design, construction, and service of biogas plants



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#### About Zorg Biogas

Our services Key facts

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#### Our services

related to biogas



Concept and Initial data collection

Design, Permissions, and Authorizations



Construction, Equipment supply, and Installation



Start up Service



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Zorg Biogas is a biogas plant construction firm with offices in Munich, Zurich.

**26** MW electrical power production record

**17** years of experience

**12** countries

28 million EUR30 personnel





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#### **Key personalities**



#### **Dr. Alex Golod (70)** General Director

- Doctor of Science in Chemical Technology
- Worked in research and production at enterprises processing organic waste
- Responsible for procurement



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#### History)

15 years of experience and nonstop progress



Founded by two engineers

2007

2008

The 1st biogas plant (635 kW) was constructed at a cattle ranch in Velikiy Krupil, Ukraine



Geographic expansion to Turkey, Latvia, and Kazakhstan





Revenue hits 2.5 M euro. 15 staff, geographic expansion, and solutions development



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#### History)

New high-load reactor technology. Revenues 21 M euro. 56 staff.

2018

2019

The biggest biogas plant in Eastern Europe (26 MW) put into operation. Implementation of straw pretreatment for biogas Zorg Biogas continues geographic expansion with 2MW project in Russia.



Zorg Biogas has designed more than100 plants in 18 countries.



#### Geography

ZORG BIOGAS has constructed more than 37 biogas plants in 12 countries, and we are just starting!

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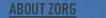
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#### Korsun, 7.5 MW

Korsun-Shevchenkivskyi, 2019 ine 2019

Raw materials: sugar beet pulp 400 tonnes/day Steel digester technology Tank volumes: 3x8,200 m<sup>3</sup> + 1x4,000 m<sup>3</sup>



# Rokytne, 2.4 MW

Rokytne, Ukraine 2015

Raw materials: sugar beet pulp 250 tonnes/day cow manure 100 tonnes/day CSTR classic technology Tank volumes: 4x3,600 m<sup>3</sup>

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#### Teofipol-1, Teofipol-2 15.6 MW

Teofipol-1, 2017 CSTR technology 4 digestors x 3,800 m<sup>3</sup> + 2 post-digestors x 3,800 m<sup>3</sup> Raw materials: pressed sugar beet pulp and cow manure CHP GE Jenbacher 3 x 1.2 MW + 1.5 MW, total = 5.1 MW

Teofipol-2, 2018 High-load technology 4 digestors x 3,200 m<sup>3</sup> + 2 post-digestors 5,000 m<sup>3</sup> Raw materials: maize silage CHP GE Jenbacher 7 x 1.5 MW, total =10.5 MW



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#### Voroshnewo, 2 MW

2021

Raw materials: sewage sludge 100 tonnes + dung 50 tonnes + slaughterhouse waste 20 tonnes daily

CSTR classic **technology Tank volumes**: 4 x 3600 m3



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### Gorodishche, 2.4 MW

Gorodishche-Pustovarivske, 2019 Raw materials: sugar beet pulp 355 tonnes/day CSTR (2 stage) technology Tank volumes: 2x3,800 m<sup>3</sup> + 1x3,800 m<sup>3</sup>



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Okny, 2018

Raw materials: maize silage CSTR (2 stage) technology Tank volumes: 1x3,800 + 1x3,800



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## Linovitsa, 2.4 MW

Linovitsa, 2018

CSTR (2 stage) technology Raw materials: sugar beet pulp 415 tonnes/day, roots 10 tonnes/day, manure 50 tonnes/day Tank volumes: 2x4,200 m<sup>3</sup> + 1x4,200 m<sup>3</sup>



## Zhuravka, 1.2 MW

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Zhuravka, 2018

CSTR (2 stage) technology Raw materials: pig slurry 137 tonnes/day + maize silage 57 tonnes/day Tank volumes: 1x3,800 m<sup>3</sup> +1x3,800 m<sup>3</sup>



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#### Karaganda, 1 MW

Karaganda, Kazakhstan 2018

Raw materials: poultry dung (100 tonnes/day 75% wet + 100 tonnes/day 95% wet) CSTR classic technology Tank volumes: 2x3,600 m<sup>3</sup>



# Cimisheny, 637 KW

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Cimisheny, Moldova 2018

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Raw materials: pig slurry 250 tonnes/day + slaughterhouse waste 10 tonnes/day CSTR classic technology Tank volume: 1x4,200 m<sup>3</sup>



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#### Tirnovo, 637 KW

Tirnovo, Moldova 2018 Raw materials: poultry dung 30 tonnes/day + maize silage 10 tonnes/day CSTR classic technology Tank volume: 1x3,600 m<sup>3</sup>



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#### Tartltonne, 1 MW

Tartltonne, Gauteng South Africa 2015 Rugani Carrots factory

CSTR classic technology Raw materials: carrot and pumpkin pulp Tank volumes: 2x4000 m<sup>3</sup>



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### Hincesti, 1.063 MW

Hincesti, Moldova 2013

Raw materials: distillery molasses wastewater 180 tonnes/day + cow manure 20 tonnes/day CSTR classic technology Tank volumes: 2x2,400 m<sup>3</sup>



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#### Pidhorodne, 125 KW

Pidhorodne, Ukraine 2013

Raw materials: pig slurry 40 tonnes/day CSTR classic technology Tank volume: 1x2,400 m<sup>3</sup>



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#### Kamenica nad Cirochou, 1.2 MW

Kamenica nad Cirochou, Slovakia 2012

CSTR classic technology Raw materials: maize silage 50 tonnes/day + pig manure 11 tonnes/day Tank volumes: 2x2,900 m<sup>3</sup>



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### Citta di Castello, 999 KW

Citta di Castello, Italy 2012

CSTR (2 stage) **technology** biogas CHP Jenbacher for tobacco factory



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#### **Osimo, 999 KW**

Osimo, Italy 2011

CSTR classic technology Raw materials: maize silage 40 tonnes/day + chicken dung 40 tonnes/day Tank volumes: 3x2,400 m<sup>3</sup>



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#### Vircava, 600 KW

Vircava, Latvia 2011

CSTR (2 stage) technology Raw materials: maize silage 30 tonnes/day Tank volumes: 1x2,400 m<sup>3</sup> +1x1,400 m<sup>3</sup>



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## Cicedagi, 250 KW

Cicedagi, Turkey 2009

Raw materials: cattle manure 50 tonnes/day + maize silage 3 tonnes/day CSTR classic technology Tank volume: 1x2,400 m<sup>3</sup>



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### Karasu, 250 KW

Karasu, Kazakhstan 2009

Raw materials: manure 44 tonnes/day + grain waste 1 tonne/day

CSTR classic technology Tank volumes: 2x2,400 m<sup>3</sup>



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#### Voznesensk, 125 KW

Voznesensk, Ukraine 2009

**Raw materials**: maize silage 10 tonnes/day

CSTR classic technology Tank volume: 1x1,200 m<sup>3</sup>



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# Velikiy Krupil, 635 KW

Velikiy Krupil, Ukraine 2008

Raw materials: cattle manure slurry 400 tonnes/day CSTR classic technology Tank volumes: 3 x 2,400 m<sup>3</sup>



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#### We are ready to answer your questions

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