

BIOMASS HEATING TECHNOLOGIES

ENERSTENA

WBA Webinar Series – National experiences with bioenergy deployment
Lithuania: A unique success story of biomass replacing fossil fuels
Technologies from Baltics – strong competition in the Western markets

www.enerstena.eu

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In-house competences

/ Departments & BUs



HOLDING COMPANY

DESIGN AND PRODUCTION

R & D CENTER



ENERSTENA VS

Process automation
design, implementation
and maintenance

ENERSTENA DESIGN

Equipment and plant
design

ENERSTENA PRODUCTION

Equipment fabrication,
erection,, quality assurance

CENTER OF RESEARCH & DEVELOPMENT

Scientific research, fuel
analysis, development of
combustion technologies

SALES, PROJECT MANAGEMENT & SERVICE



ENERSTENA LATVIA

Group representation in
Latvia

PARTNERSHIP

Group representation in
various countries

ENERSTENA

Solution development,
engineering and project
management

ENERSTENA SUOMI

Group representation in
Finland

ENERSTENA SERVICE

After-sales service

Competitive advantages

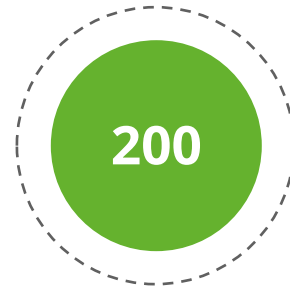
/ Enerstena Group



20% SHORTER PROJECT LEAD
TIME VS. MARKET'S AVERAGE



INTERNATIONAL PRESENCE IN
MORE THAN 11 COUNTRIES



ENERGY PLANTS
IMPLEMENTED WITH
OUR TECHNOLOGY



OUR TEAM COMPRISES
OVER 150 EMPLOYEES



OVER 70% OF EMPLOYEES
ARE QUALIFIED ENGINEERS

QUALITY
MANAGEMENT &
CERTIFICATES OF
ENERSTENA
GROUP



ISO 9001



OHSAS



ISO 14001

ISO 9606-01
ISO 14732
ISO 3834-3
& other

IN-HOUSE PRODUCTION

/ Portfolio of solutions



BIOMASS COMBUSTION

Moving stepped grate combustion
Capacity range 1 – 25 MW
For miscellaneous types of biomass
Fuel moisture content <55%



BOILERS

Hot water boilers 1 MW - 25 MW
Steam boilers 1 t/h - 30 t/h
Fire tube type or combined with water tubes
Pressure ratings up to 42 bar



FLUE GAS CONDENSERS

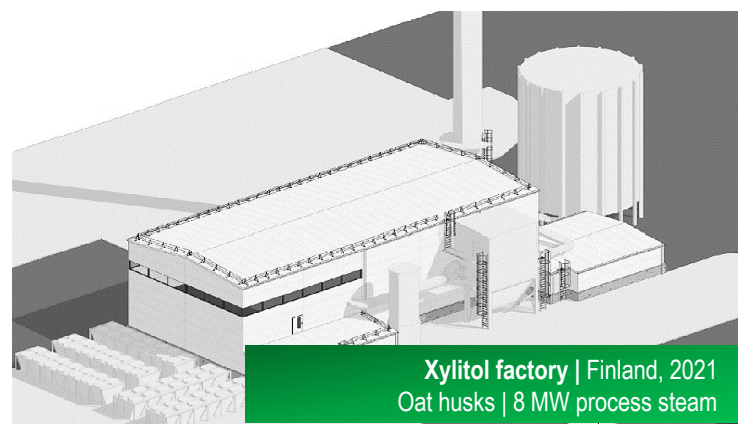
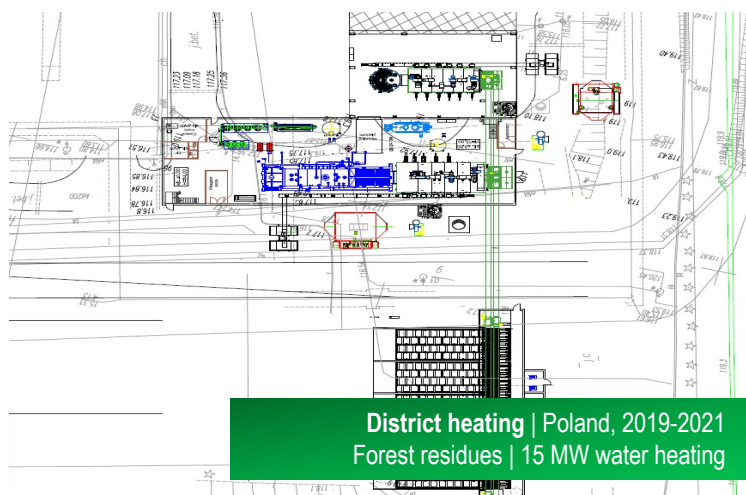
Tube type flue gas condensers
Biomass FGC for boilers <150 MWth
Natural gas FGC for boilers <300 MWth



AUXILIARY & PERIPHERAL EQUIPMENT UPON DEMAND

Success stories

/ Different markets





Value for the customer

/ Different markets

PERFORMANCE VALUES:

Biomass fuel: Wood chips

Plant capacity: 30 MW @ 16 bar(g)

Heat production: 184 500 MWh

Ash yield: 738 t, dry

Dust/NOx/CO: < 5/145/200 mg/Nm³ @ 6%O₂

Wastewater: N/A

Availability: 99 % at 8400 hours

CONSUMABLES:

Fuel: 73 800 t

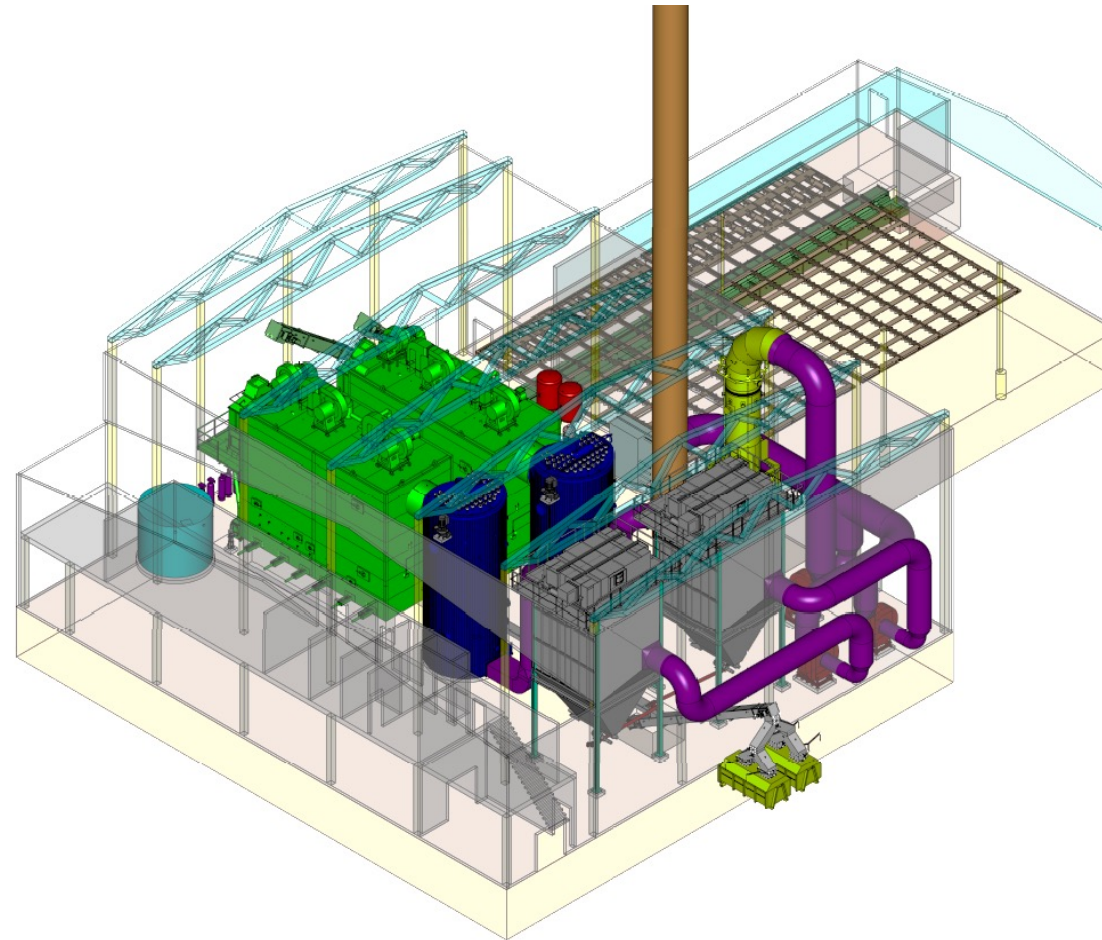
Electricity: 2214 MWh

Chemicals: N/A

Tap water: N/A

GUARANTEE VALUES

MAINTENANCE STRATEGY



TECHNOLOGICAL ISLANDS:

1. FUEL HANDLING

- Storage reclaimers
- Stone traps
- Fuel spreaders
- Conveyors
- Hydraulic system
- Rotary gear

2. BOILER ISLAND

- ENERSTENA® combustion system
- ENERSTENA® boiler
- Soot blowing
- Fuel feeder
- Hydraulic system

3. FLUE GAS CLEANING

- Particle filter (ESP)
- ENERSTENA® SNCR system (optional)
- Trace heating
- Insulation and cladding

4. ASH HANDLING

- Reclaimers
- Conveyors
- Air locks
- Rotary gear

5. HEAT RECOVERY

- ENERSTENA® flue gas condenser
- Condensate treatment

6. CONTROL SYSTEM

- ENERSTENA® control logic
- Operator's panel
- Control hardware
- Safety and comfort gear

7. AUXILIARIES

- Fans
- Pumps
- Stack
- Heat exchangers
- Compressed air
- Water treatment

*Assumptions: boiler mean load 75%, operating hours 8200 h/a, fuel LHV 2,5 MWh/t, ash content 2% d.b., all values are annual.

*We not only create
We also protect together*

COME VISIT US

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