

BIOMASS HEATING TECHNOLOGIES

**ENERSTENA**

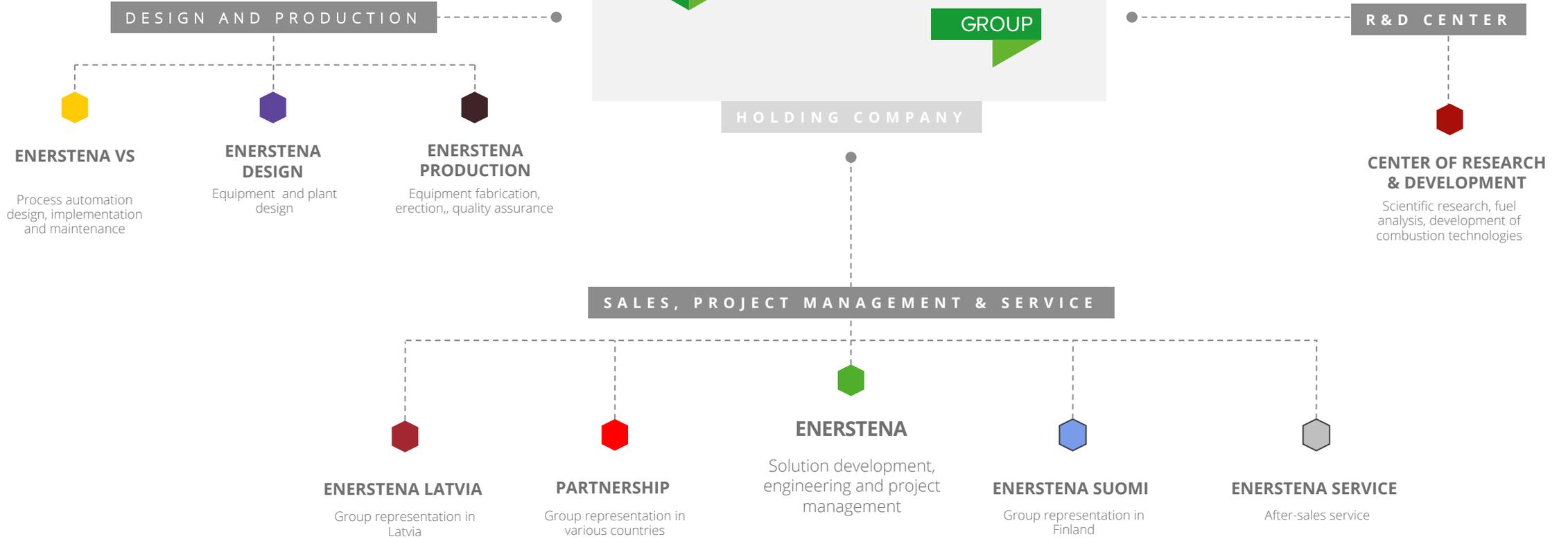
WBA Webinar Series – National experiences with bioenergy deployment  
Lithuania: A unique success story of biomass replacing fossil fuels  
**Technologies from Baltics – strong competition in the Western markets**

[www.enerstena.eu](http://www.enerstena.eu)

2021-05-18

# In-house competences

/ Departments & BUs



# Competitive advantages

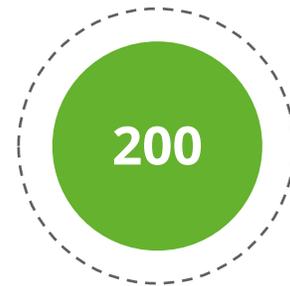
/ Enerstena Group



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

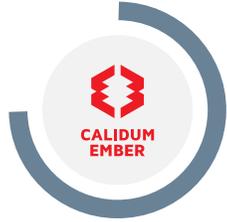


ISO 14001

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

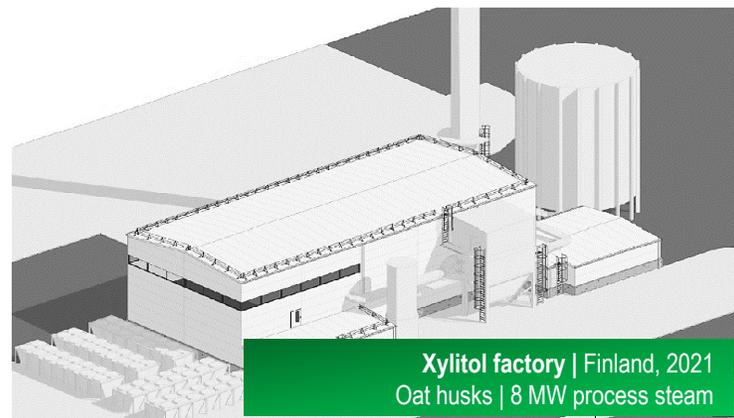
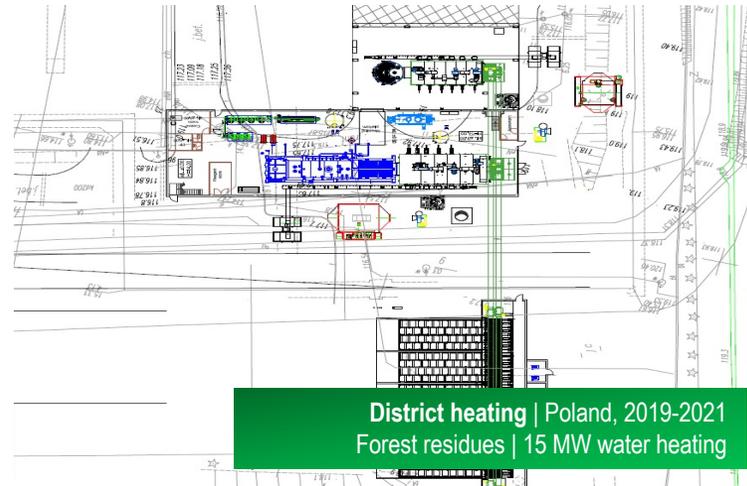
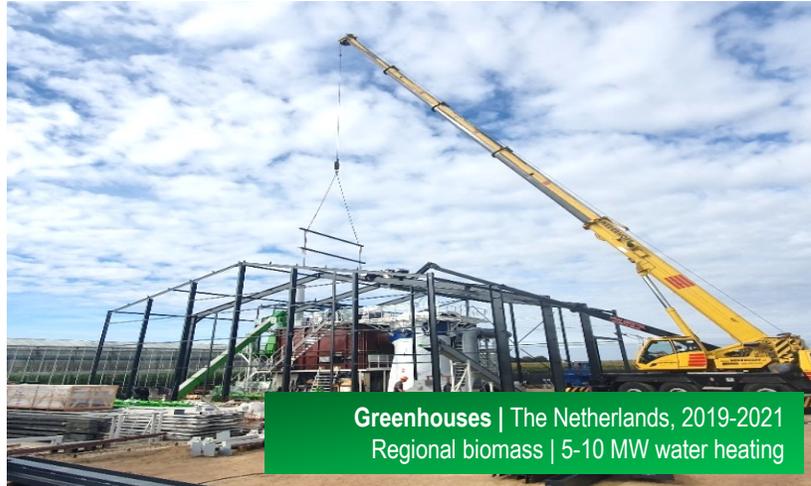
Tube type flue gas condensers  
Biomass FGC for boilers <150 MWth  
Natural gas FGC for boilers <300 MWth



AUXILIARY & PERIPHERAL EQUIPMENT UPON DEMAND

# Success stories

/ Different markets





# Value for the customer

/ Different markets

## PERFORMANCE VALUES:

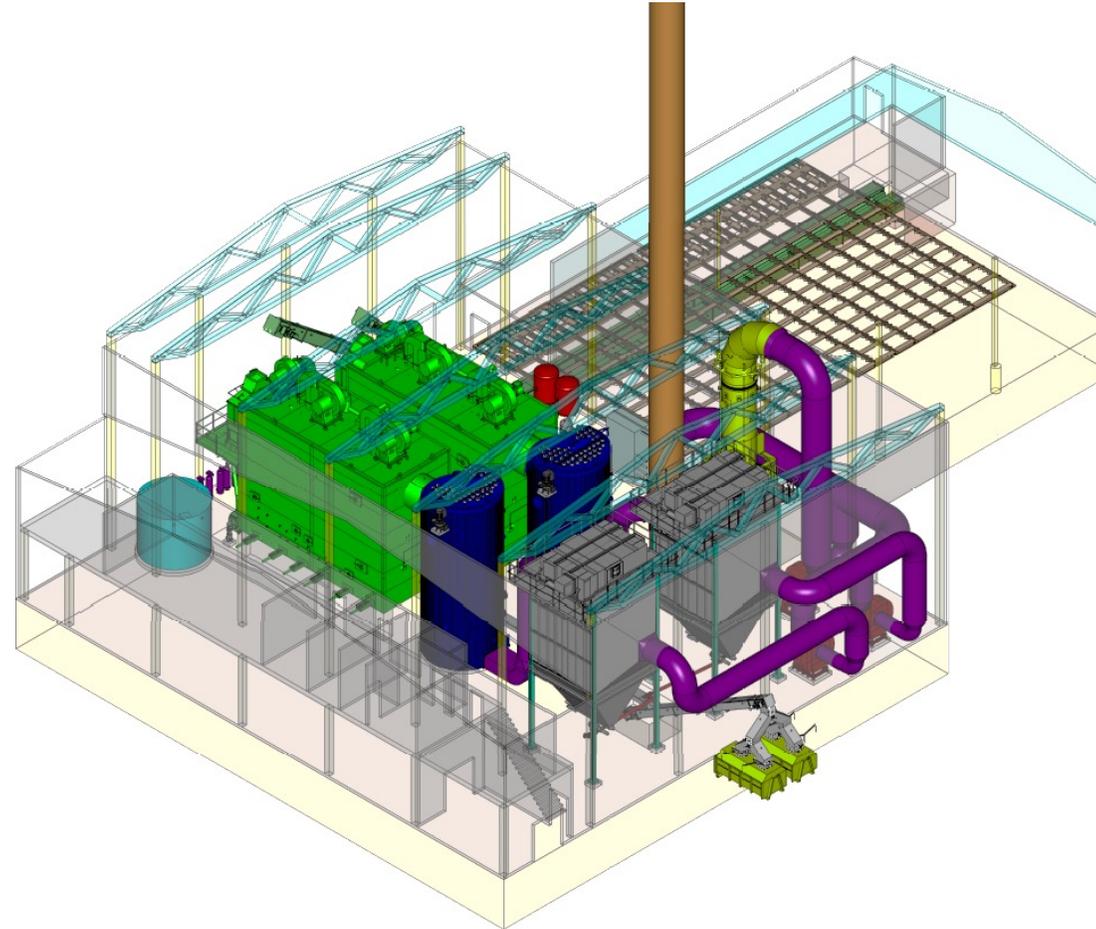
Biomass fuel: Wood chips  
 Plant capacity: 30 MW @ 16 bar(g)  
 Heat production: 184 500 MWh  
 Ash yield: 738 t, dry  
 Dust/NOx/CO: < 5/145/200 mg/Nm<sup>3</sup> @ 6%O<sub>2</sub>  
 Wastewater: N/A  
 Availability: 99 % at 8400 hours

## 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*

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**COME VISIT US**

**ENERSTENA GROUP**

Ateities rd. 30A, LT-52163  
Kaunas, Lithuania

+370 37 37 32 31 | [sales@enerstena.lt](mailto:sales@enerstena.lt)

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[www.enerstena.eu](http://www.enerstena.eu)