ICP Solutions OÜ Presentation 2017

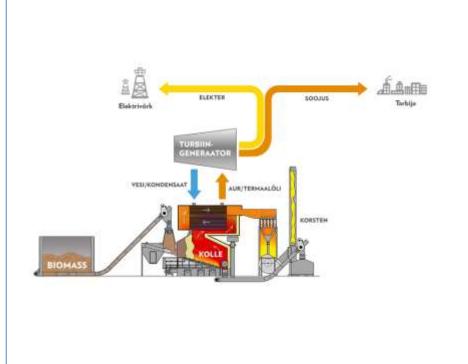




- Energy solutions for industrial clients (we consult, install and service):
- Industrial cooling, heat recovery and heatpump solutions,
- CHP solutions on natural or biogas,
- Biogas production solutions for Industrial and agricultural plants, anaerobic wastewater cleaning solutions
- Woodchip boilerhouses for steam, hot water and CHP solutions,
- We service all the equipment what we offer!



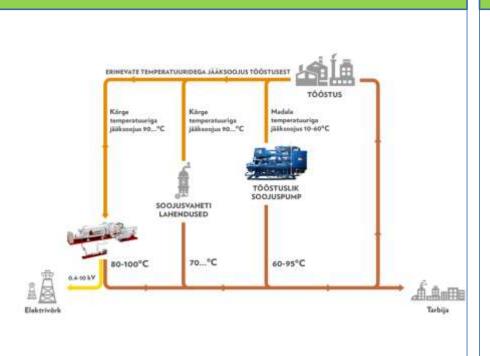
Woodchips



- Combined heat and power plants based on biomass (woodchips, straw, waste wood, bark)
- Boilerhouses working on biomass, producing hot water and steam.



Heat recovery



- Heat rocovery systems for existing natural gas or woodchip boilerhouses using flue gas condensers or economizers.
- Heat recovery systems for high temperature waste heat, for producing electricity with ORC turbine.
- Heat recovery solutions with industrial heat pumps.

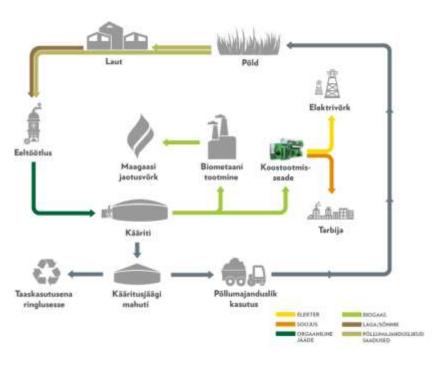


Heat recovery Flue gas discharge: Flue gas inflow: L= 6'336 [nm3/hi] I_v= 7'074 [nm³/hf] T= 170. [°C] T= 48.0 [°C] x= 74 [g/kg_{drv}] x= 159 [g/kg_{dry}] (W50) solid matter ~ 150 [mg/nm3] solid matter < 300 [mg/nm³] Flue gas condenser Water treatment system Heat recovery: P= 770 [kW] Tut = 51.6 [°C] $T_{HI} = 45.0 [^{\circ}C]$ Condensate discharge: Im= 649 [I/h]

- Heat rocovery systems for existing woodchip boilerhouses using flue gas condensers.
- Existing plant with 3,0 MW of power and recovering 770 kW!



Biogas



- Biogas cleaning systems for biogas plants.
- Combined heat and power plants working on biogas/natural gas.
- Biomethane upgrading systems for biogas plants

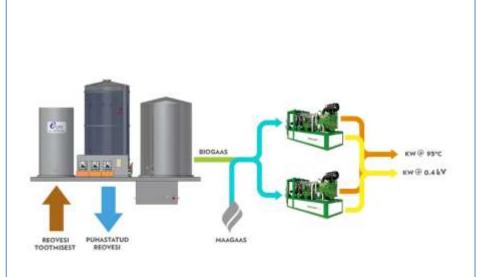


Landfill gas GENERAATOR

- Landfill gas collecting and cleaning systems,
- Combined heat and power plants working on biogas/natural gas.
- Biomethane upgrading systems for biogas plants



Industrial waste water solutions



- Anaerobic wastewater cleaning systems for industries.
- Waste water cleaning by-product is biogas which can be used for energy purposes!



Housing for our systems





- Containerizing different solutions.
- Concrete and sandwich panel solutions.
- All required preparation works for our solutions.



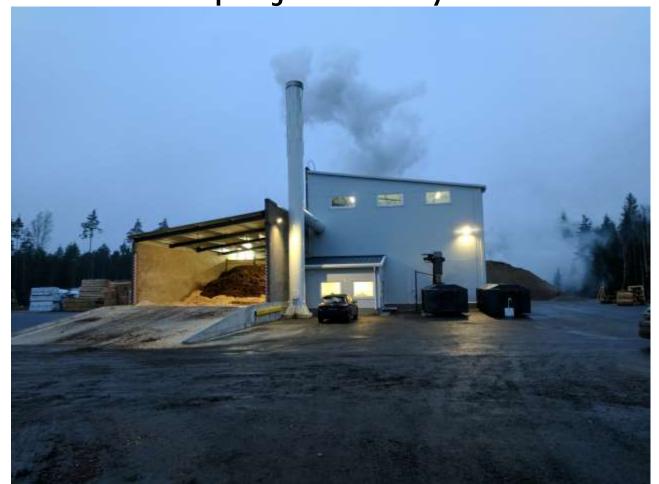
 CHP plant based on woodchips, 1 MWel and 4,2 MW thermal power. ROI of this project 6 years!







4 MW hot water Boilerplant based on bark.
 ROI of this project is 5 years





• 2 MW steam Boilerplant based on woodchips. Installation to existing boilerhouse. ROI of this project 4 years!







 Landfill gas CHP plant 2x150 kWel and 2x179 kWth power. ROI of this project was 3 years.







 Containerized and in boiler-room heat pump solutions. Usual ROI of the project is about 2 years.





Heat recovery systems for natural gas boilerhouses.







Heat recovery systems for wood chip boilerhouses.
 Usual ROI of the project 2-3 years.





Biogas plant and biogas upgrading to CNG





ICP SOLUTIONS OÜ WWW.ICP-SOLUTIONS.EU INFO@ICP-SOLUTIONS.EU

Thank You for your attention!!!!!