REFERENCE PLANT

Name: **Gjøvik District Heating Central, Norway**
District Heating Plant
Input: **Waste wood**
Output: **Hot water**

• Commencement year	2014
• Boiler capacity	12 MW Boiler
• Fuel	waste wood
• Fuel moisture	15-45 %
• Fuel consumption	4220 kg/h

• Operating water temperature, boiler outlet	140 °C
• Boiler design pressure	10 barg
• Boiler design temperature	184 °C
• Flue gas temperature	140 °C

REFERENCE PLANT

PLANT CONCEPT

For project Gjøvik Weiss has delivered a complete system from fuel handling to ash handling. The bio boiler is a 12 MW boiler burning waste wood from construction sites and old wood houses. This type of fuel is considered harmful to the environment, therefore the system is designed with combustion retention time of at least 2 seconds at the minimum temperature of 850°C and extended flue gas cleaning, where lime is added into the flue gas in order to reduce SOx and HCl content. Fly ash from this cleaning is collected and pneumatically transported to an ash silo. The fly ash needs to be stored in a special disposal. Furthermore, Weiss has delivered a DeNOx system to reduce pollution of NOx.

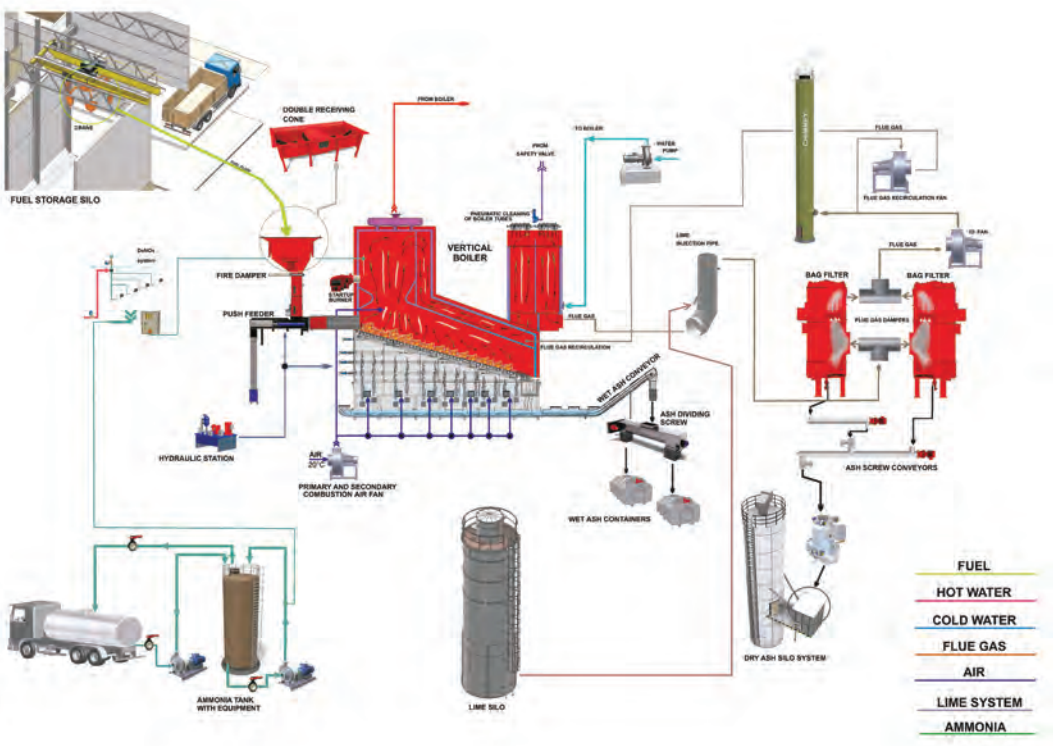
To keep track on the emissions, Weiss has installed a complete CEMS measurement system.

To back up the bio boiler, Weiss has delivered 2x10 MW oil boilers, which can run on bio oils and on traditional EO1 oil. Storage and pump system for these oil boilers are fully automatic and switching between the fuels can be done from the SCADA system.

Weiss has delivered the complete hot water distribution system in the DH boiler central, which is able to distribute up to 32 MW of heat to the city of Gjøvik.

The DH Central was taken into service on 15th November 2014.

FLOW DIAGRAM



WEISS FACTS

WEISS OFFERS:

- well proven technologies & components
- durability without unexpected shutdowns and unforeseen expenses
- very low maintenance requirements & fully automatically operated

AVAILABLE BOILER CAPACITIES:

Steam Boiler Plant	Hot Water Boiler Plant
1,5 t/h up to 25 t/h steam	1 MW up to 30 MW
Typical design pressure 16 Barg	Typical design pressure 6 Barg