

Case Study – biomass CHP plant

Plant information

Jämtkraft, Östersund, Sweden

Plant:	Heat and power plant
Boiler:	Foster Wheeler CFB
Operation time:	7200 hours per year
Fuel:	90 % biofuel (bark, wood chips, saw dust), 10 % peat
Capacity:	125 MW_{th}

Cleaning areas:

Economiser, catalyst and air preheater

Infrasound generator:

Type: 1 x APX10000

Location of installation: Top of economiser.

Year of installation: 2014

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Situation description

The backpass of the boiler (ECO+Catalyst+Air Preheater) is equipped with 18 steam soot blowers. Before installing the infrasound generator the soot blowers were operated 2 times per day at low load (<75 % load) and 3-4 times per day at high boiler load.

The infrasound system was installed in order to increase the efficiency of the boiler, by saving soot blowing steam, and to reduce wear on the tube bundles and the catalyst elements. The staff had concluded the damage of the catalyst elements was related to operation of the steam soot blowers.

The Infrasound generator from Infrafone was installed in the summer of 2014, standing on top of the ECO, as shown in *Figure 1*. Commissioning took place in October 2014.

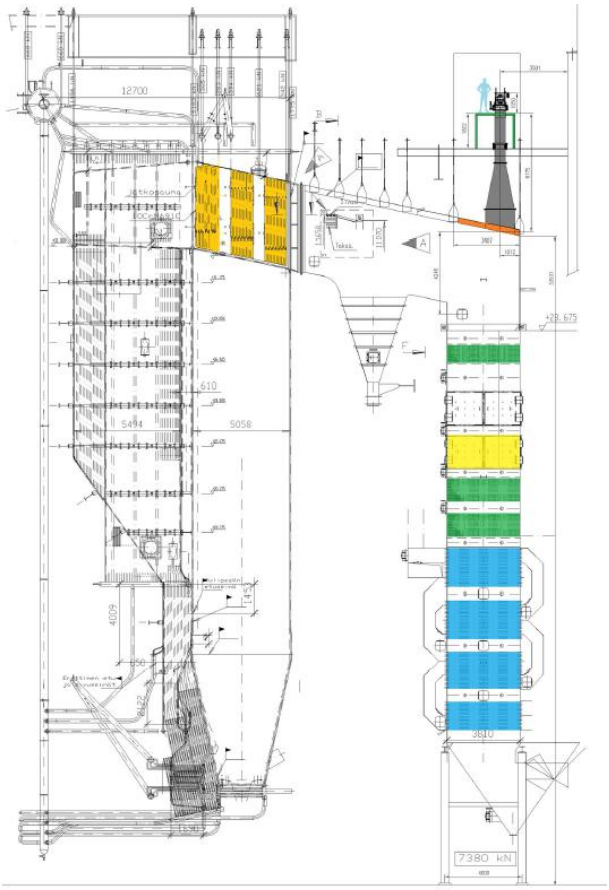


Figure 1
Layout showing superheater (orange), economiser (green), catalyst (yellow), air preheater (blue) and the Infrasound generator standing on the backpass.

Results

Eliminated need for steam soot blowing of the catalyst, resulting in much less wear of the catalyst elements and extended life-time.

Reduced need for steam soot blowing in ECO and APH to once per day, which results in substantial savings compared to using the steam soot blowers 3-4 times per day and reducing wear on the tube bundles.

Stable flue gas temperatures. The boiler is operating with stable flue gas outlet temperature (see fig 2-3 below).

Under references, at www.infrafone.se, you can read about our technical and economical results for several heat and power plants.

We have also gathered our knowledge based on our long experience of infrasound technology compared to conventional methods as steam soot blowing, shot cleaning, compressed air soot blowing and audible sound (sonic or acoustic horns) in several "white papers" that are available under Knowledge base at Infrafone's homepage.

More information about the infrasound technology and its benefits as well as technical features and functions of the Infrasound System can be found in several brochures under Products at Infrafone's homepage.

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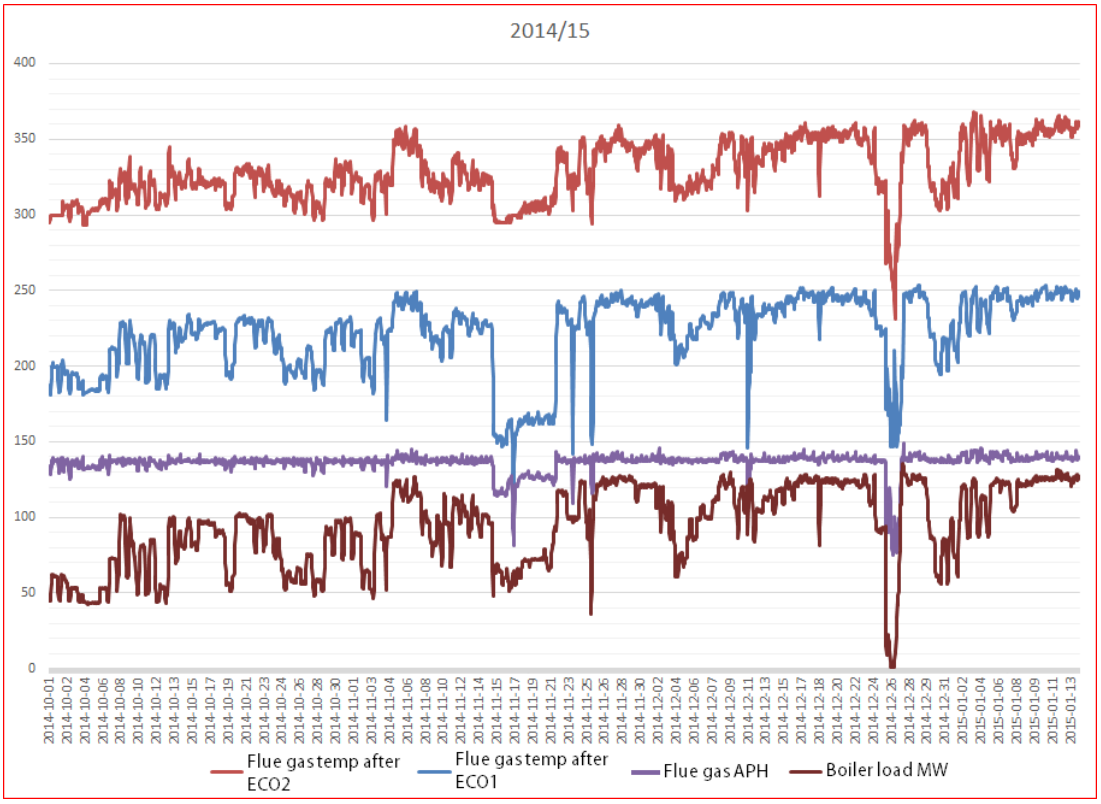


Figure 2
Boiler power and flue gas temperatures after installing the infrasound generator in October 2014.

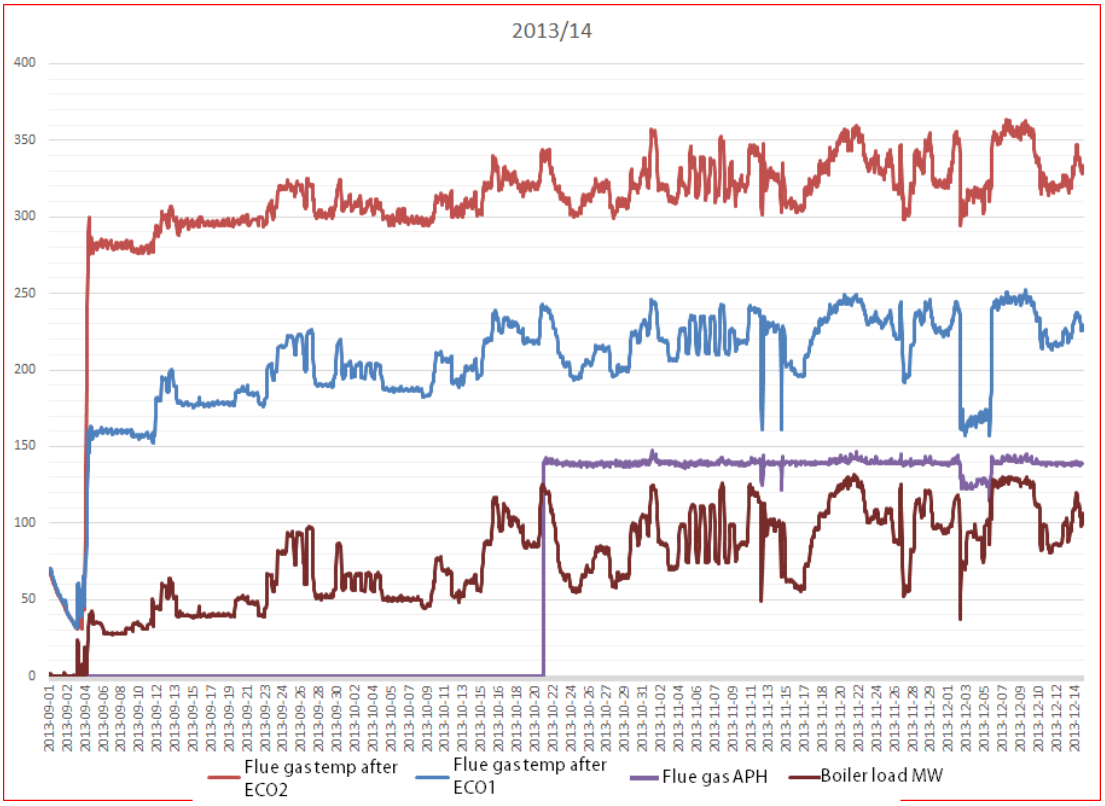


Figure 3
Boiler power and flue gas temperatures the season before installing the infrasound generator.

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