

Lower fuel consumption - higher revenue

ComBio Energia S.A. develops steam generation projects and cogeneration of electricity with biomass that promote environmental improvements and significant cost reductions for customers in the industrial segment.

The boilers supplied by DanPower and operated by ComBio burn several types of biomass, which changes the requirements of the process itself, because the soot deposition rate in the boiler thermal exchange tubes varies according to the type of biomass used. If nothing is done to prevent the accumulation of soot in the thermal exchange pipes, the efficiency of the boiler will decrease over the operating time and negatively impact the availability of steam and, especially in the case of ComBio, also impact on revenue.

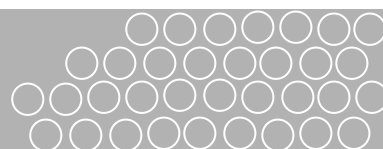


At Klabin S.A., ComBio uses wood chips and sugarcane bagasse as fuel. It is estimated that this biomass mixture would require a total stop of the steam generation plant every 3 months for cleaning the boiler pipes.

Due to Klabin S.A.'s requirement for steam availability in the production, ComBio would prefer to have only one annual shutdown in order to deliver a high steam production while ensuring a high profitability.

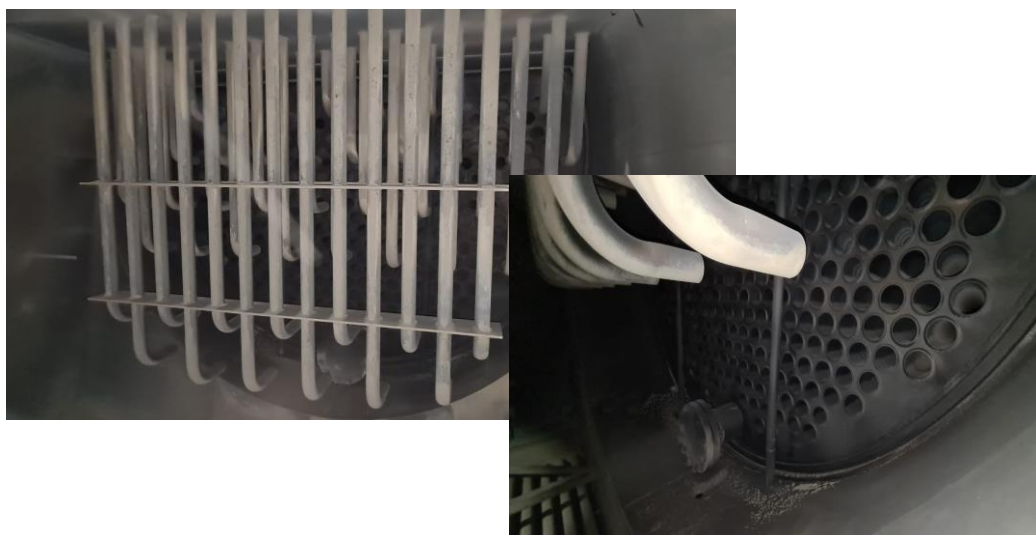
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Through DanPower, one of the largest and most renowned boiler manufacturers in Brazil, ComBio was presented to Aerovit solutions for automatic boiler cleaning and decided to install the soot blowing system at Klabin's plant to test whether the solution could, in fact, avoid unnecessary downtime and reduce the need for manual cleaning.

- ▲ The boiler in this case study is a mixed type, with a generating capacity of 37 tons of steam per hour and is equipped with an Aerovit soot blowing system with 49 valves in its firetube section.
- ▲ The valves are installed at the top of the rear smoke box, mounted on a grid of pipes, which function is to ensure the ideal distance between the soot blower system and tubeplate, to ensure maximum efficiency of the blowing operation.
- ▲ The steam generation plant was put into operation in February 2021, and after one year of continuous operation it was found that the boiler tubes still remained satisfactorily clean, requiring little effort during the annual manual cleaning operation.



Gilberto Rozenchan, Industrial Director at ComBio

"....by investing in the Aerovit Soot Blower solution with the DanPower boiler, ComBio has gained a higher boiler efficiency, leading to lower fuel consumption and thus cost saving. We are obtaining a higher revenue due to higher uptime and consequently increased steam sale."

ComBio's main asset is biomass, and this is the most important item in the cost of steam generation. The cost and management of biomass quality are two competitive differentials of ComBio. ComBio has 13 operations that are present in the 5 regions of Brazil.

DanPower develops customized solutions in boilers and equipment related to steam generation, with high performance technology in various industrial applications, such as food, pulp and paper, brewery, agribusiness, sugar and alcohol, chemical, petroquímico and termelétrico segments. DanPower has been in the market since 2001 and has two factories located in Piracicaba - São Paulo.

Klabin S.A. is the leader in the packaging market and the largest paper recycler in Brazil. Klabin has been in the market for more than 120 years and has 22 industrial units in Brazil, 1 in Argentina and commercial offices in the United States and Austria.

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