



## BENEFITS

- Capacity increase
- Emission reduction
- Energy efficiency
- Fuel saving
- Postponing boiler investment
- Recovering of waste heat

## CASE DAIRY

### Food production industry / bio energy plant

#dairy #foodproduction #heatrecovery  
#biopower #replacingfossil

A dairy uses peat and wood chips to produce steam, heat, and electricity to their process. From the 20 MW bio boiler a significant amount of energy is released in the atmosphere as vaporized water with the flue gases. During peak season also fuel oil was used in energy production.

The dairy wanted to not only recover the energy but also reduce their SOx emissions. Caligo specialists were involved in the project since the very beginning. The study of the process showed that the best solution to the case would be a CSx-SHP scrubber with two (2) integrated heat pumps combined with effective condense water treatment unit.

After the delivery and start up the dairy has produced 6–8 MW heat to their heat accumulator and internal heat network, as 85°C water. Total reduction of SOx emission is >99 %. Estimated payback time of the investment is 2 years. Fuel oil was totally replaced with the energy produced by CSx-SHP.

Caligo scrubbers, with or without integrated heat pump, are delivered always as factory tested Plug and Play units, including all HW&SW needed to autonomous running of the unit. Site time during installation of CSx is only a few days.



**Caligo Industria Oy is a Finnish CleanTech company, who markets and sells product and system solutions for energy recovery and purification of flue gases in the energy and processing sectors as well as for the utilisation of waste heat from the processes.**

**Caligo is a part of Swedish Addtech Group.**

**Caligo Industria Oy | [sales@caligoindustria.com](mailto:sales@caligoindustria.com)**

**[www.caligoindustria.com](http://www.caligoindustria.com)**

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