

STEAM AUDIT – Austria, Clothing I

FACT SHEET



The company's approach to energy efficiency and sustainability

The company attaches great value to its social responsibility. As a result, it is part of the climate alliance and has already executed various projects to increase energy efficiency. Furthermore, the company is very family-friendly and offers additional medical services as well as healthy food for the employees.

Steam system

The capacity of the steam generator is 5.1 t/h. The fuel used for the burner of the steam production is oil. Steam is produced at a pressure level of 10 bar and a temperature level of 180 °C. On average, the production consumes 700 L of feed water per hour.

Steam is mainly used for different production processes where heating is required.

Only 22% of the produced steam is used directly.

Steam system problems identified

The steam system operates with poor efficiency. The capacity utilization ratio is only about 50%. This could be due both to the boiler being operated at low part loads for long periods of time and the economiser not being used at all. Additionally, the system is stopped and re-launched every day.

Proposed energy saving measures

For a better efficiency of the steam system, it is advised to find another way to provide the heating energy for the processes. This can be achieved by using a heating boiler with an indirectly linked steam generator. In addition, a heat recovery system for the exhaust gas should also be implemented.

By separating the steam production from the heating energy supply, a capacity utilization of more than 80% should be achievable. This should result in energy savings of about 634,134 kWh/a and a cost reduction of 38,682 €/a. With investment costs of 302,083 €, the static amortisation period is 8.23 years.

For the implementation of heat recovery, the investment costs amount to 45,658 €.

The heat output reduces the consumption of heat from the district heating system.

Considering the different loads in winter and summer, the substituted heat energy adds up to 265,680 kWh/a and a cost reduction of 15,970 €/a. This results in a static amortisation period of 2.86 years.

Implemented proposed energy saving measure(s), investments and results achieved (in figures)

For the realization, the company decided to renovate the steam system and to implement a large heat recovery system. Therefore, they installed a new boiler and a heat recovery system from the exhaust gas. The heat of the waste air is also directly recovered. The heat of the waste water is used for a heat pump that supplies thermal energy for the processes. A buffer storage was also installed.

The total energy reduction of oil and district heating amounts to 996,010 kWh/a.

With investment costs of 432,920.12 €, the amortisation period is 9.2 years.



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105 employees

Total (Estimated) Investment

347,741 €

Total (Estimated) Savings

54,652 €/a

899,814 kWh/a

Non-Energy Benefits

Increased security of supply

Less maintenance

Improved central position

Less water consumption

Reduction of emissions

Achieved and/or expected non-energy benefits (NEBs) as a result of implemented and/or proposed measures and investments involved

Since more heating energy is supplied by internal processes, the dependency on the district heating is lower, so the security of supply increases. The new boiler also needs less maintenance and has an improved central location. Finally, the whole system needs less water and emits fewer exhaust gases.

Involvement of internal stakeholders

The main partner for the project was the divisional director, Gerald Rattensberger, who was directly involved in every step of the process. From the beginning, the responsible CEO, Gerald Heerdegen, was highly interested in the project and keen on being kept up to date, so the collaboration worked out successfully throughout the whole project.