

The company's approach to energy efficiency

Numerous measures concerning waste reduction and resource conservation have already been implemented. These actions have led to a significant reduction in the residual waste volume and, thus, to a cost reduction. In addition, investments were made in energy measures, such as heat recovery from refrigeration plants and compressors as well as the installation of LED lighting.

Steam system

The two used steam generators have a capacity of 25 t/h. Natural gas is used as fuel. The targeted pressure and temperature are 10 bar and 180 °C, respectively. The recorded data show an average load of about 30%. Pasteurisation is the main process in which 47% of the steam is consumed. The condensate return rate is about 30%; the condensate has a temperature of 95 °C.

Steam system problems identified

The capacity utilization of the steam generators is very low, which results in poor efficiency. The combined capacity utilization of an average of 30% reduces the boilers' efficiency from 85% to 69%. What's more, the two steam boilers are operated in a non-optimal partial load range.

Proposed energy saving measure(s), investments, and expected results (in figures)

Savings can be generated by utilizing the steam generator 2, which is more state-of-the-art and has a higher efficiency, and by operating it in an optimized load range. Another option is to replace steam boiler 1, which has a lower efficiency, with a more efficient and slightly more powerful device. This would also increase the failure safety during production expansion. An investment of around 360,000 € is required for this measure and would result in an annual saving of 134,000 €/a. In any case, some minor improvements could optimize the existing steam boiler. A conductivity-based desludging system or an oxygen control of the steam generator is conceivable. Both reduce the consumption by about 0.5% and the annual costs of about 3,500 €/a.

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

An increased security of supply, reduced maintenance costs, an easier operation, and a positive marketing effect in the overall context of sustainability are the expected non-energy benefits.

Involvement of internal stakeholders

Mr Gerhard Hartl and Mr Josef Pircher, who are the persons within the company responsible for steam plants, were the main contacts for this project. From the beginning, Mr Hartl and Mr Pircher were highly motivated, so the cooperation was successful throughout the whole project.



Pinzgau Milch Produktions GmbH

www.pinzgaumilch.at

Austria

Production and distribution of milk and dairy products

Milk and dairy products

203 employees

Total (Estimated) Investment

378,500 €

Total (Estimated) Savings

139,140 €/a

3,168,300 kWh/a

Non-Energy Benefits

Increased security of supply

Reduced maintenance costs

Easier operation