

This company's approach to energy efficiency and sustainability

The company produces annually with a total of 45 employees about 87.000 hectolitres beer and about 8,000 hectolitres of lemonade. With the Steam-Up audit this company wants to increase their production capacity, reduce their specific energy input and increase their product quality. There is no systematic energy management at this location. The company is already well positioned. Some measures have already been implemented in the past. The boiler was installed in 2011 with an economiser. Accordingly, the exhaust gas temperature is only 140 ° C. An oxygen control is available, but should be put back into service. The condensate collector was installed in 2017 and is equipped with a post-evaporation heat exchanger. The steam traps were externally audited in May 2017 and the company remedied the deficiencies.

Steam system

The fresh water is treated via an ion exchanger and an osmosis system and collected in a pressureless buffer tank. The treated cold water flows into the degassing, where it is degassed and collected together with the returning condensate in the feedwater tank. For the degassing act steam is supplied in the feed water tank. If necessary, the feed water is fed to the boiler via the level control of the steam boiler, where it first flows through the single-stage economizer and is warmed up further by the boiler exhaust gases. The steam boiler can produce up to 2 tons of steam per hour, which is fed into the steam distributor at a pressure of 8 bar. From the steam distribution this goes to the respective consumers, and if necessary to the condensate collection tank. The waste condensate at the steam distributor is fed to the feedwater tank.

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

- Put O₂ control back in operation could save about 36,2 MWh/a and 1.403 €/a; invest ca. 1.000 € (implementation planned for 2018)
- Insulation of pipes and fittings could save about 28 MWh/a and 1,200 €/a; invest: ca. 5.000 € (implementation planned for 2018)
- Preheating of the burner air could save about 98 MWh/a and 4.000 €/a; invest ca. 20.000 € (implementation is not planned)
- Use of high pressure condensate system could save about 84 MWh/a and 3.500 €/a (implementation is not planned)
- Switch from oil to gas could save about 28 MWh/a and 44.000 €/a; invest ca. 400.000 € (implementation is not planned)

Achieved and/or expected Non Energy Benefits (NEBs) as result of implemented and/or proposed measures and investments involved

The implementation of two measures is planned by the company in 2018. With a better insulation of pipes and fittings they will not only save energy but also gain work safety conditions. If the company would also switch from oil to gas they could reduce their CO₂ emissions, but this is not planned so far.

Involvement of internal stakeholders

The management of the company is highly interested in implementing those measures to achieve cost-effective energy savings.

Germany

Brewery

Beer and Soft Drinks

45 Employees

Total Investment and (planned)

408.000€ (6.000 €)

Total Savings and (planned)

54.103 €/a (2.603 €/a)

274,4 MWh/a (64,4 MWh/a)

Non Energy Benefits

Reduce of CO₂ emissions

Improved work safety
condition