STEAM AUDIT – Czech Republic, Manufacture of rubber tyres and tubes

FACTSHEET

Companies connection to energy efficiency and sustainability

The primary goal of environmental management is to minimize the consumption of raw materials and the environmental impact. With a uniform and global reporting system, Continental Barum s.r.o. ensures that the environmental goals are observed across the corporation. Since the introduction of the ISO 14001 standard in 1996, certification at Continental has also been conducted according to this international environmental management standard. Compliance with targets is reviewed by means of regular internal and external audits conducted as part of ISO 14001. In this context, environmental indicators for specific consumption and emissions per tonne of finished product are derived. The company has implemented ČSN ISO 50001.

Otrokovice, Czech Republic

Mechanical Engineering

5000 employees in total, of which 380 are in Engineering hall

Steam system

Company purchases steam at multiple pressure levels from the Heating plant. For heating and hot water preparation for the Engineering hall the brine steam is used (released by expansion from a condensate collection tank) at pressure level 0.3 MPa and at the temperature 130°C, in case of increased steam request the steam is supplied from Heating plant. Steam is used for heating, hot water preparation and very rarely in foundry or HVAC unit.

Steam system problems identified

Steam is primarily used in the Engineering hall only for heating and hot water preparation and in the saving measure is proposed the replacement of the steam heating with hot water heating. This leads to a reduction of heat losses of the steam pipes and better regulation of the system.

Proposed energy saving measures, investments, and expected results

The proposed measure consists of replacement of the current steam distribution with the new hot water system, replacement steam pipes with the new hot water pipes, installation of the new heat exchanger steam/water and installation of the new hot water ventilation units. This measures lead to calculated energy saving of 234 MWh per year.

Implemented proposed energy saving measures, investments and results achieved

The investment costs for the replacement of the steam heating are about 67 000€ and the payback period is about 5.7 years.

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

The project increases the overall efficiency of the heating system and leads to the reduction emission of pollutants and CO_2 emissions, reduction water consumption for steam generation, reduction consumption of chemicals for water supply, maintenance cost reduction, operating cost reduction and improving working conditions.

Involvement of internal stakeholders

The management was informed about the methodology Steam Up and they have expressed their willingness to participate. The steam system was analysed from a management point of view, i.e. what are its overall costs and steam alternatives. They are highly interested in implementing measures to achieve cost–effective energy savings.

Total (estimated) Investment

€ 67 000

Total (Estimated) Savings

234 MWh per year

Non Energy Benefits

Reducing emissions of pollutants and CO_2 emissions

Reducing water consumption for steam generation

Reducing consumption of chemicals for water supply

Maintenance cost reduction

Operating cost reduction

Improving working condition