

Pilot Project "Introduction to Energy Efficiency and Energy Management Systems in SMEs in Mexico"

Example of energy efficiency improvement Gelita Mexico: recovery of waste heat from evaporator

Background

The implementation of the pilot project began with the introductory workshop to ISO 50001 in October 2015. The companies then conducted energy audits to identify and prioritize various opportunities for improvement, with the guidance of Mexican consultants with expertise in energy efficiency.

One of the participating companies is called **GELITA Mexico, S. de RL de CV** and is located in Lerma, State of Mexico. This company produces gelatine for the food industry.

Description of the improvement

One of the processes with the highest energy consumption in the production of gelatine is water evaporation. The energy used for this purpose is released into the environment through the cooling tower. 38% of the plant's total fuel consumption is used to heat water.

The improvement initiative had already been identified when the energy audit for the pilot project was conducted, and involves producing hot water and reusing part of the energy dissipated in the cooling tower in place of fuel. This successful case study was documented as a result of the energy management system that is being implemented with the PTB and CONUEE project.

This case highlights the support provided by the management system in documenting the energy savings resulting from the improvement decisions made following the energy diagnosis, which in a structured way and based on ISO 50001 will facilitate future investments to ensure improved energy performance, and thereby increase the confidence of senior management in these projects.

Savings achieved, results and additional benefits

Key indicators	
Total energy saving for the plant	5.32%
Annual economic saving	MXN \$ 1 238 580
Annual energy saving	3 132 621 kWh
Investment needed	MXN \$ 450 000
Payback period	4.35 months
Greenhouse gas reduction	567 652 tons CO ₂ eq. 198 673.16kg CH ₄ eq. 480,092 Kg N ₂ O eq.



The Mexican National Commission for the Efficient Use of Energy (CONUEE) and the German Metrology Institute (PTB) make the aforementioned project available to small and medium enterprises (SMEs) in order for them to implement an energy management system (EnMS) according to ISO 50001, by strengthening the skills of technical staff within each company.

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