

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

Example of energy efficiency improvement Guardián: zero-cost operational optimization

Background information:

The implementation of the pilot project began with the introductory workshop to ISO 50001:2011 in October 2015. The companies then conducted energy audits to identify and prioritize various opportunities for improvement, under the guidance of Mexican consultants with expertise in energy efficiency.

The company **Guardián Industries** is located in the town of Queretaro and its main activity is the manufacture of flat glass in different colours and sizes. The management of Guardián decided to participate in the project because they were convinced that an energy management system in line with the international standard ISO 50001: 2011 would bring them great benefits, such as improving energy performance, lowering their direct greenhouse gas emissions and reducing energy costs.

Description of the improvement:

Prior to initiating the project, Guardián had identified certain structural improvements in their equipment with high energy consumption. According to design and engineering data previously obtained, their expectation for performance improvement did not reach 5%. During this year in the pilot project, and after calculating the improvement in operation using standardized baselines, they were able to confirm an improvement in performance of an additional 2 percentage points above that expected.

The 2% in question was achieved thanks to awareness-raising activities focused on the staff directly responsible for operating critical equipment and optimizing operational controls.

This case highlights how, through close monitoring of the operating conditions of equipment with high consumption (SEU) that affects energy performance, coupled with awareness-raising activities, it is possible to improve the energy efficiency of the operation, without the need for investment.

Key indicators	
Additional saving in natural gas consumption for the plant	2%
Annual economic saving in addition to that expected	MXN \$1 883 530
Annual savings in m ³ of natural gas in addition to that expected	1 015 606
Investment needed	MXN \$ 0
Payback period	0



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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