

## **Saving Energy at a Wastewater Treatment Plant through Electrical and Production Data Analysis**

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**Abstract :** This paper intends to show how electrical energy consumption and production data analysis were used to find opportunities to save energy at Taboada wastewater treatment plant in Callao, Peru. In order to access the data, it was used independent data networks for both electrical and process instruments, which were taken to analyze under an ISO 50001 energy audit, which considered, thus, Energy Performance Indexes for each process and a step-by-step guide presented in this text. Due to the use of aforementioned methodology and data mining techniques applied on information gathered through electronic multimeters (conveniently placed on substation switchboards connected to a cloud network), it was possible to identify thoroughly the performance of each process and thus, evidence saving opportunities which were previously hidden before. The data analysis brought both costs and energy reduction, allowing the plant to save significant resources and to be certified under ISO 50001.

**Keywords :** energy and production data analysis, energy management, ISO 50001, wastewater treatment plant energy analysis

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