



# Industrial Energy Efficiency Project

Nestlé Philippines, Inc has joined hands with the United Nations Industrial Development Organization (UNIDO), the Department of Energy and the Department of Trade and Industry to implement a structured approach to energy management in their operations, under the Global Environment Facility (GEF)-funded project, "Industrial Energy Efficiency in the Philippines." Through this cooperation, the Lipa Factory in Batangas has already achieved significant savings and efficiency gains through the implementation of an Energy Management System in alignment with ISO 50001.

## A Case Study of Nestlé Philippines, Inc.

Nestlé Philippines, Inc.  
(NPI)

Industry: food  
and beverage



Products: Nescafé, Nido, Milo,  
Nestea, Maggi, Bear Brand,  
and Purina

The Lipa Factory in Batangas was chosen by top management of Nestle Philippines, Inc. to be the pilot factory of the Philippines IEE Project for the implementation of an ISO 50001 aligned Energy Management System. The factory produces milo chocolate drink and Nestlé Breakfast Cereals, and also has re-packing operations.

\* source: Schematic World Map, UNIDO

## Management Systems

The Lipa Factory management is very familiar with management systems and use these to manage all aspects of their business. The site has been managing energy for a number of years and has delivered substantial savings to the business. The management team highlighted that there has been a 45% improvement in energy performance in the past 5 years and the site has integrated energy management with the Total Productive Maintenance (TPM) model on site.

The logical next step was to review the existing practices and identify where the gaps between existing practices and international best practice were present. The national experts of the Industrial Energy Efficiency (IEE) Project conducted a thorough gap analysis, and identified a number of best practice initiatives already in place, as well as opportunities for improvement to align factory practices with the requirements of ISO:50001.

## Commitment to Continuous Improvement

The site's commitment to continuous improvement has been made more visible with the energy management system through the following actions:

- Inclusion of energy commitments in the integrated policy
- Inclusion of additional staff in the energy conservation team from outside of the engineering group
- Delivery of energy management system training to staff to raise awareness of the systematic approach to energy management

## Detailed energy review

A clear advantage of the management system was the requirement to carry out a review of the operations of the facility. This identified 15 opportunities for improvement varying from no-cost opportunities through to capital intensive projects with long financial payback periods. It should be noted that these opportunities existed even though the site has already improved performance by 45% in the past 5 years.

## Key Results

The graph below illustrates the reduction in energy consumption of the facility in

2012 as a result of a variety of no-cost and investment projects identified by the energy management system; the Nestle Lipa plant achieved a 15% improvement in energy consumption over this 12 month period.

The project is also expected to reduce greenhouse gas emissions both now and in the future, as other projects inspired by this one are realised. There will also be reduced CO2 emissions from diesel-based power generation plants and reduced use of firewood for energy generation. The success of the pilot project should also encourage further investment in hydropower in Liberia in the future.

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## Validation of Approach

The Nestlé Lipa plant has sustained significant improvements driven by the structured management systems approach that has been deployed in the business over a number of years.

Management has welcomed the internationally recognised management system which validates the best practices that have delivered such significant savings. All activities conducted by the company related to energy will have to be documented to ensure sustainability and EnMS/ISO 50001 has provided a platform for this.

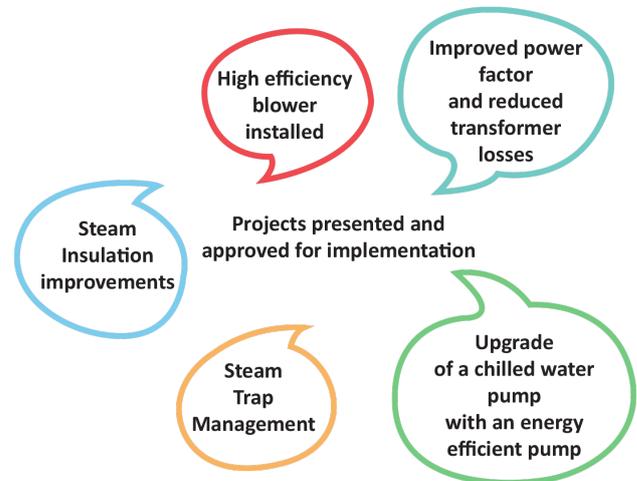
## Clear Objectives Targets and Action Plans

In line with a clear Action Plan, the site has committed to further energy improvements in 2014 and 2015:

The energy improvements on site are an ongoing process and the more projects that are implemented lead to the identification of more potential opportunities for improvement.

## Metrics are key to success

The factory's initial focus on isolated projects yielded dividends to the site but the structured approach of establishing an energy



baseline, identifying the energy base load, and using linear regression to mathematically model energy performance, has enhanced the data analytical approach of the site energy management program and reinforced the mantra “you cannot manage what you cannot measure,” especially in the area of Significant Energy Users. Management hopes that the formal Energy Management System will drive further improvements in the site's energy performance for many years to come.

### For more information:

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