

Industrial Energy Efficiency Project

Rowell Lithography & Metal Closure, Inc., (Rowell) with a single plant located at P.E. Antonio St., Bo. Ugong, Pasig City, has been in operation since 1975. The company is primarily engaged in metal printing and manufacturing of metal closures, predominantly for food and beverage industries.

Rowell Lithography & Metal Closure, Inc.

Continuous Improvement a Core Cultural Value of this SME

Rowell is a relatively small industry and is categorised as operating in the SME sector. The energy consumption of the facility in 2013 was approximately 3.5GWh and there are approximately 70 staff working at the plant. The implementation of the energy management system in the company is a good demonstration of what is possible in a small organisation with continuous improvement principles engrained in their day to day operations.



The company has been certified to ISO 14001:2004 & ISO 22000:2005 and the logical approach adopted by senior management was to integrate energy management into this existing structure. This approach was adopted as there is currently an integrated management system in place to manage food safety and the environment.

Management Focus

Even before they joined the UNIDO programme, Rowell had already completed some initiatives to reduce energy consumption. However, these were on an ad hoc basis and were not integrated into the normal operations of the organisation. The focus on energy had primarily been on capital projects as follows:

- Replacement of magnetic ballast with electronic ballast
- Acquisition of air compressor with variable speed drive,
- Installation of meta center to sequence various air compressors

An assessment of the organisation's energy management practices was carried out and the management system improvement areas were identified as follows:

- Development of a comprehensive list of roles and responsibilities,
- Update the existing Integrated Management System (IMS) policy to include energy
- Complete the energy planning process including gaining an understanding of the significant energy users
- Development of Energy Performance Indicators and Energy baselines.

There are many challenges in a small organisation when implementing the above improvements but with the dedication of the UNIDO national experts, a more holistic understanding of the energy management requirements was delivered to the organisation.



Data is Key

During the initial planning process it was identified that there were a number of energy meters already in place in the facility for monitoring key energy consumers. This information, however, was not being recorded or analysed. To utilize this information, a manual recording system was put in place in order to obtain the maximum value from the existing metering information without the need for additional metering investment.

Structure brings Success

The step by step approach promoted by UNIDO assisted Rowell in understanding the energy consumption patterns, and more importantly, the items in the plant which affect energy. This assisted the company in developing energy performance indicators which use a prediction model to determine the amount of energy that the facility should consume. This is a key operating parameter for the facility and aids management in the ongoing understanding of usage patterns and areas that require additional focus.

Opportunity into Action Plans

A key lesson of the management system was the focus on operational control and low cost opportunities. The improvements that were carried out as a direct result of the implementation of the management system include:

- Consolidation on the use of a single Chiller for the two Lining Machines
- Strict implementation of operational control procedures for the operation of the Line 4 Printing Machine
- Replacement of fluorescent lighting fixtures with CFLs in the metal closure department

A further project that was identified and planned for the future is the replacement of the compressed air distribution system pipework which will yield a 2 year return on investment.

Some of the key benefits that have accrued to Rowell as a result of the project include:

1. Concrete improvement in energy intensity
2. Knowledge transfer to the organisation from the national experts

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