



ENERGY MANAGEMENT SYSTEM (EnMS)

ALTECH UEC South Africa
Electronics Manufacture
 2014

BACKGROUND

Altech UEC SA is a manufacturing plant for Satellite and Terrestrial decoders and other consumer electronics. The primary processes are plastic injection moulding and electronic manufacture and assembly, and is based in Mount Edgecombe, KwaZulu Natal.

Electricity is the main source of energy, and rising costs combined with irregular supply necessitated a reduction in consumption. The Industrial Energy Efficiency (IEE) Project's Energy Management System (EnMS) Implemented by the National Cleaner Production Centre of South Africa (NCPC-SA) in conjunction with UNIDO was identified as a starting point.

KEY FINDINGS

In the period 2012 – 2013, four projects were undertaken, resulting in a saving of 325,166kWh and R253,381 for an investment of R34,500. A reduction in GHG emissions of 321,914 tons CO₂ was achieved, and a payback period of 0,14 years is envisaged.

IMPLEMENTATION OF AN ENERGY MANAGEMENT SYSTEM

Lighting, compressed air and new equipment procurement were identified as key areas where reductions could be applied. Several members of Altech's staff attended IEE training workshops, and a communications programme was embarked on among Altech's staff to address poor practices with regard to energy usage.

Old lighting units were replaced under Eskom's Standard Product Package programme, and the cost of the project was covered by the rebate claimed. The compressed air circulation system was inspected and all significant leaks repaired.

Altech has also amended its procurement strategy to include energy efficiency as a consideration when purchasing equipment to replace existing units or additional units required for increased production, and several new, more energy efficient, items of equipment have already been installed.

INTERVENTION CHALLENGES

Management did not fully understand the Eskom Standard Product Package programme and approval for the project was thus delayed. The contractor initially appointed to carry out the work used inferior quality fittings, causing further delays. A drop in lux (brightness) levels was experienced with the new fittings, which also caused delays to allow for adjustments.

SUMMARY OF INTERVENTIONS

System	Intervention	Capital Cost ZAR	Energy saving (kWh)	Savings ZAR	Estimated Payback period (years)
Factory lighting	Replaced old units with new energy efficient light sources	0*	121 281	101,997	0
Internal and external lighting	Replaced old units with new energy efficient light sources	0*	129,085	104,594	0
Internal lighting	Installed lighting control devices and local light switches	26,100	19,055	13,319	1.96
Compressed air	Detect and repair leaks	8,400	55,745	33,471	0,25

*Cost of project absorbed by rebate claimed under Eskom Standard Package Programme.

LESSONS LEARNED

- Implementation of the EnMS helped to focus the attention of employees on energy efficiency, and also to raise awareness of the need for such programmes among senior management.
- A structured EnMS is necessary to enable successful implementation within an organisation.
- Successful implementation of the EnMS has raised the profile of Altech UEC within the Altech group, and indicated its intentions regarding cost savings.