



BOOSTING THE MANUFACTURING SECTOR COMPETITIVENESS THROUGH ENERGY SAVINGS

"The efficient energy management programme has helped us to reduce our operating costs and become more competitive in a dynamic industry characterised by robust competition".

Mr. S. Venkataraman, Technical Manager, Universal Corporation Ltd.

"Our energy bill has reduced significantly as a result of the measures that we implemented. The efficient energy management programme has helped us to become more efficient in energy use, which is also good for the environment".

Mr. Savio D'Costa, Maintenance Manager, Sanpac Africa Ltd.

"The efficient energy management programme has transformed our operations and made us more competitive, thanks to the technical support provided by the CDE".

Mr. Jayesh Shah, General Manager, Sumaria Industries.



Sanpac Africa Ltd. Nairobi, Kenya (Chillers)



Universal Corporation Ltd. Nairobi, Kenya (TPH boiler)

- Measurement of the energy consumption of the various types of equipment used.
- Analysis of the electrical and mechanical equipment specifications and operational data in order to assess their efficiency and performance.
- Identification of potential measures to reduce electricity costs.

> Recommendations:

- Calculation of the energy cost saving measures, on the basis of the investment required, the efficiency and performance gains and the payback period.
- Exploration of the possibilities to use renewable energy.
- Proposal for an efficient use of power accessed from the national electricity grids.

RESULTS ACHIEVED:

- Comprehensive energy audits carried out for 10 manufacturing companies from 3 Eastern Africa countries, with tailor-made recommendations.
- Recommendations enabling energy savings in the range between 8% and 26% of annual costs.

IMPACT:

- Use of a local team of energy auditors (Lean Energy Solutions, Tanzania), thus the project contributed to strengthening local consultancy capacities.
- Dissemination of good practices, contributing to energy savings in the manufacturing sector.

CDE ADDED VALUE:

CDE's long-term experience in the energy sector in the ACP has made it possible to develop a business model (process and toolkit), which is easily replicable to other regions. This has led to reduced energy consumption by enterprises, resulting in increased competitiveness, hence profitability.

INTRODUCTION:

Some manufacturing SMEs in Eastern Africa are energy intensive, employing sometimes inefficient and obsolete technologies because of the lack of technical capacities and resources to undertake a profound analysis of what could be achieved at enterprise level to reduce energy consumption. Ten manufacturing companies from three Eastern African countries have benefited from an Efficient Energy Management Programme (EEMP), which provides energy efficiency services for the development of energy savings action plans and technical capacities.

OBJECTIVE(S):

Overall:

- To identify energy savings potential within the operational and production systems of 10 manufacturing companies in Kenya, Tanzania and Uganda.
- To improve their competitiveness through efficient energy management.

Specific:

- To conduct energy audits and introduce energy conservation measures.
- To assess the possibilities for use of renewable energy.

ACTIVITIES UNDERTAKEN:

> Energy audits:

- Site visits and discussions with plant personnel regarding operations.



Success Story

EASTERN AFRICA • Competitiveness • GREEN ENERGY

Kenya	Universal Corporation Ltd	Converted existing IDO fired boiler to biomass briquette firing to save operating costs of steam generation.
	Sanpac Africa Ltd	Reviewed pressure settings to enable the compressor to operate at full load.
	Beta Healthcare International	Replaced the electromagnetic ballasts of 800 nos. tube lights with electronic ballasts to save about 20% energy in lighting.
	Muhoroni Sugar Company	Increased power generation to 4.5 MW by installing electric motor drives for mills and diverting steam for power generation turbines.
	Cables & Plastics	Replaced existing barrel heaters with thermally insulated heaters to reduce heat losses by 60%. Reduced leakages and header pressure of the compressed air system.
	Sumaria Industries	Modified chilled water system to account for new machines and relocations. Minimized chilled water use by resorting to cooling water for oil cooling.
Tanzania	Silafrica/Simba Plastics	Installation of a comprehensive energy monitoring system to check the performance of each machine on a daily basis. Target setting of energy consumption figures based on the methods learned.
	DPI Simba	Reduced leakage to 5% by housekeeping measures.
	Chemi & Cotex	Interconnected compressors in FMCG plant to avoid unloaded operation of compressors.
Uganda	Britania Industries	Developed a steam balance. Reduced fuel consumption cost. Reduced electrical energy cost.



*Silafrica Tanzania Ltd. Dar-Es-Salaam, Tanzania
(Injection moulding machine)*



*Britania Allied Industries Ltd. Kampala, Uganda
(Jacketed steam heated tomato sauce vessel)*

FURTHER INFORMATION:

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