

# Haco Industries Benefits from Resource Efficient and Cleaner Production

Haco Industries produces stationery, shavers, personal care and household hygiene products. The Resource Efficient and Cleaner Production (RECP) programme achieved annual savings of more than USD 548,000. RECP has also contributed to improving product quality and work safety and the closed loop effluent treatment plant will contribute to further improving the company's environmental performance.

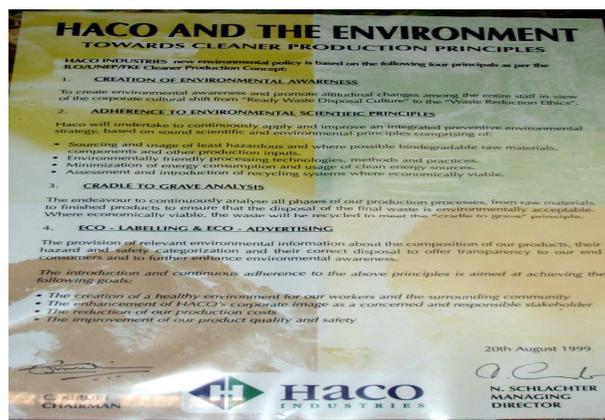
Haco Industries has demonstrated that taking care of materials, energy, water, waste and emissions makes good business sense. RECP covers the application of preventive management strategies that increase the productive use of natural resources, minimize generation of waste and emissions, and foster safe and responsible production. Benefits are eminent in many enterprises, regardless of sector, location or size.

## Overview

HACO Industries in Kenya is one of the leading companies in the East African/ COMESA region, dealing in stationery products, shavers, personal care and household hygiene products. They are manufacturers and distributor partners of TIGA brand, PLI Alberto-Culver USA, E.T. Browne Co. USA, Société BIC France and Jeyes UK. The company was established in 1974 and has a market coverage of East and Central Africa and has 540 employees.

## Benefits

Cleaner production in this company started in 2005. In its Resource Efficient and Cleaner Production (RECP) programme, the company specifically focused on water, material and energy efficiency and in some production processes, as well as wastewater reduction. In regard to energy efficiency, the company focused on zoning of the respective user section consumption trends: (i) Bic factory (ii) Cosmetics Factory (iii) Head office. The entire RECP programme achieved annual savings of more than USD 548,000.



HACO industries declaration to cleaner production



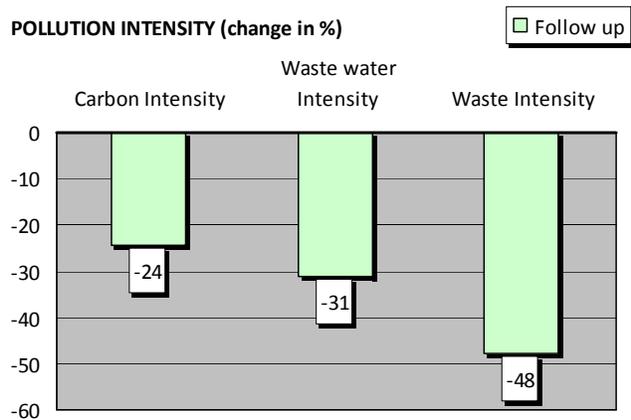
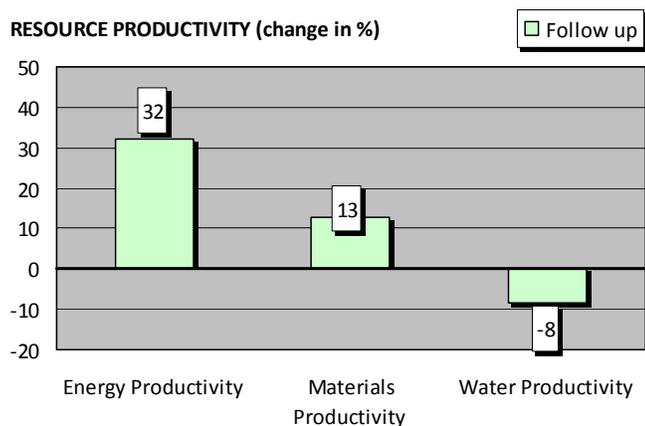
Closed loop Effluent treatment plant at the factory

**Table 1: Results at a glance**

Absolute Indicator	Change (%)	Relative Indicator	Change (%)
<b>Resource Use</b>		<b>Resource Productivity</b>	
Energy Use	-11	Energy Productivity	32
Materials Use	5	Materials Productivity	13
Water Use	29	Water Productivity	-8
<b>Pollution generated</b>		<b>Pollution Intensity</b>	
Air Emissions (global warming, CO2 eq.)	-11	Carbon Intensity	-24
Waste Water	-19	Waste water Intensity	-31
Waste	-38	Waste Intensity	-48
<b>Production output</b>	18		

**Note:** The *absolute indicators* provide a measurement of how much resource use/pollution output has changed in absolute terms e.g. units of energy used or tons of waste generated. A negative percentage indicates a decrease and a positive percentage indicates an increase. The *relative indicators* provide a measurement of changes in resource use/pollution in relation to production output. *Resource productivity* provides a measurement of how much product output can be produced per unit of resource use, from a sustainability perspective, productivity should increase. *Pollution intensity* provides a measurement of how much pollution is generated per unit of production output, from a sustainability perspective, intensity should decrease.

### HACO RECP Profile



**Note:** The RECP profile provides a visual overview of resource productivity and pollution intensity shown as change in % compared to the baseline values. Environmental performance is improved when resource productivity increases and when pollution intensity decreases.

### Areas of improvement

As part of HACO Environmental Policy, the company has adhered to the Resource Efficiency Cleaner Production (RECP) concepts, i.e. creating more products while using fewer resources and creating less waste and pollution.

The following critical aspects have been considered to achieve (RECP), among others:

- A reduction in the material intensity of the products manufactured
- A reduction in the energy consumption
- Improved recyclability
- Use of renewal resources where available
- Greater durability of products

**Table 2: Options implemented**

Principal Options Implemented	Benefits			
	Economic		Resource Use	Pollution generated
	Investment [USD]	Cost Saving [USD/yr]	Reductions in energy use, water use and/or materials use (per annum)	Reductions in waste water, air emissions and/or waste generation (per annum)
<ul style="list-style-type: none"> <li>• Installation of internal meters to monitor the consumption trends of respective user zones.</li> <li>• Sensitization of staff by affixing 'switch off the lights' stickers.</li> <li>• Continuous energy savings improvements by replacing the fluorescent light tubing from 12 mm to 8 mm.</li> <li>• Heat loss measurement using Infra red sensors and subsequent insulation of all heaters.</li> <li>• Energy conservation proactive approaches e.g. switching off machines not in use.</li> <li>• Implementation of Kaizen continuous improvement principles such as Single Minute exchange of die which focuses on reducing the change over times (faster start ups). Autonomous maintenance where the machine is regularly monitored to eliminate breakdowns.</li> <li>• Use of natural light (transparent sheeting).</li> <li>• High energy user - electrically heated hot room converted to use steam.</li> <li>• Use of wind driven cyclones instead of electric fans.</li> </ul>		547,727.39	Reductions in energy use by 286,847 kWh.	Reductions in carbon dioxide emissions.
<ul style="list-style-type: none"> <li>• Switch from running water hose vessels cleaning to cycle batch cleaning where they meter the amount of water into the vessel, clean, discharge the water and rinse with metered water quantity hence less water is used with better results.</li> <li>• Installation of water consumption meters in four major water consumption points (Cosmetics, Ace dilution, Caustic unit and the Reverse Osmosis unit).</li> <li>• Switching from running water hose cleaning to fixed quantity cleaning using a mop and a bucket.</li> <li>• Adoption of a shut down procedure where all tank outlets (except the fire tank) are closed at the end of the shift.</li> </ul>		532.89 including: - Reduction in the cost of water. - Reduction in the cost of electrical energy used to pump water. - Reduction in the cost of water treatment. - Reduction in the cost of labour to discharge the waste water.		Reductions in waste water generation.
<ul style="list-style-type: none"> <li>• Reusing treated waste water from the plant.</li> <li>• Timing the processes by measuring water feeding.</li> </ul>				

## Approach taken

HACO industries is a signatory to the UNEP declaration on Cleaner Production and the company supports the ten principles of the United Nations Global Compact in respect to the environment. By continual implementation of Cleaner Production concepts, the company experienced growth in manufacturing and reduced environmental burdens by considering the use of least hazardous (safe) materials. HACO industries have installed a state-of-the-art effluent treatment plant that has greatly improved water treatment and recycling. Recently, the company entered into partnership with TIGA Brand of South Africa to diversify its product portfolio.

"With the continual implementation of (RECP), we are confident that HACO Industries through its strong value base and strategic foresight will continue to prosper as new markets evolve and mature." Mr. Earnest Ndwiga (Head of Quality Assurance)

## Business case

HACO Market Coverage includes Kenya, Uganda, Tanzania, Ethiopia, Rwanda, Burundi, Djibouti, and Eritrea with a population in excess of 180 million people. To meet the demands of clients, the company expanded its production capacity as well as entered into partnership with TIGA Brand of South Africa. Due to the RECP programme, the company has significantly excelled in product quality, occupational health and safety and general environmental performance.

### ABOUT THESE SUCCESS STORIES

The United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Programme (UNEP) cooperate in their joint Resource Efficient and Cleaner Production (RECP) Programme. The RECP Programme aims at improving the resource productivity and environmental performance of businesses and other organizations in developing and transition countries. The Programme is implemented in partnership with a network of National Cleaner Production Centres (NCPCs) that have currently been established in some 50 countries. This series of enterprise success stories documents the resource productivity, environment and other benefits achieved by enterprises in developing and transition countries through the implementation of RECP methods and practices.

These successes were achieved with the assistance of the National Cleaner Production Centres, which are part of the global RECP Network established with support of the UNIDO and UNEP. The success stories employ the indicator set described in *Enterprise Level Indicators for Resource Productivity and Pollution Intensity. A Primer for Small and Medium Sized Enterprises*, published by UNIDO and UNEP in 2010. The primer with accompanying calculator tool and further case studies are available at [www.unido.org/cp](http://www.unido.org/cp) and [www.unep.fr/scp/cp](http://www.unep.fr/scp/cp).

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