

As part of the SwitchMed programme, UNIDO supports industries in the Southern Mediterranean through the transfer of environmental sound technologies (MED TEST II) to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

Morocco

Sifitex

Textile sector

Context

Number of employees: 50

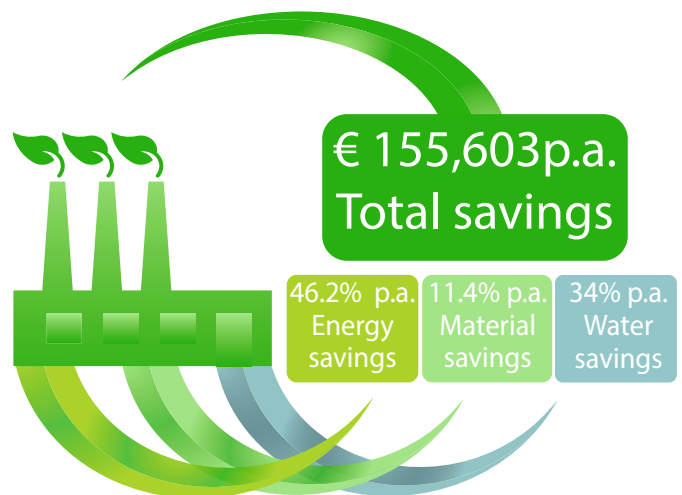
Key products: Production of yarn, dyeing and weaving

Main markets: Local

Founded in 1993, Sifitex specializes in texturing, dyeing and weaving. Known for the quality of its products, a strong feature of the company, is the well-trained staff and its modern machinery. While their main market is the Moroccan market, the company has been interested in expanding their sales in the region.

Supporting implementation of this vision and ensuring their quality management, SIFITEX has obtained ISO 9001 certification. However, as part of continuous improvement is interested in implementing an integrated system of energy and environmental management based on ISO standards.

Benefits



Graphic: UNIDO

The MED TEST II project identified opportunities for total annual savings of € 155,603 in raw materials, water and energy for a projected investment of € 639,250. The average return on investment period for the identified measures is 4.1 years. One of the measures was rejected, while the other measures identified were accepted by the management.

The company will have additional reviews, in particular for the total recycling of treated water by advanced treatment. The measures adopted will reduce energy consumption by 46.2%, water by 34% and raw material by 11.4%. Environmental benefits include reducing annual CO₂ emissions by 34% (1,013 t).

Saving opportunities¹

Action	Economic key figures			Resource savings & Environmental impacts per year		
	Investment euro	Savings euro / Yr.	PBP Yr.	Water & Materials	Energy MWh	Pollution reduction
Electrical energy and compressed air	69,222	20,017	3.5	-	202	Total: 1,013 t CO ₂ 8,926 m ³ waste water 162 t solid waste
Heat efficiency	22,466	9,523	2.4	-	318	
Resource management	94,535	24,730	4.2	1,106 m ³ water	952	
Production optimization	21,322	38,330	0.6	82 t raw materials	513	
Technological upgrade of dyeing machines	431,705	63,000	6.9	7,820 m ³ Water 80 t raw materials	544	
TOTAL	€ 639,250	€ 155,603	4.1	162 t raw materials 8,962 m³ water	2,529 MWh	

¹ Numbers based on production value from 2015

Electrical energy and compressed air

Energy consumption will be reduced through measures aimed at optimizing contracted power and improving the performance of indoor and outdoor lighting by installing LED appliances. The production of compressed air will be improved by the installation of variable speed compressors and a leak detection and repair campaign.

Heat efficiency

Energy savings will be obtained by improving the combustion efficiency of boilers with the installation of a boiler control system as well as installation of a variable speed controller on the boiler burner motor as well as the thermal insulation of all hot surfaces with a surface temperature equal to or greater than 45 ° C. In addition, the use of steam for reheating fuel, while keeping the electrical part, for start-up and after-work will help to reduce the energy demand.

Resource management

The introduction of an energy management system to implement standard ISO 50001 will allow the company to optimize its energy consumption, with a significant reduction potential, as well as the measurement to recover some of the wastewater and heat through installation of a heat exchanger.

Production optimization

The optimization of production and reduction of loss, among others, will be achieved by the implementation of the 5S approach, the optimization of the storage rack, improvement of the reel change method and modification of the dyeing cycle to reduce work hours.

Technological upgrade of dyeing machines

A significant positive impact on quality with significant reductions in water, steam and energy consumption has been identified for the replacement of dyeing machines.

For more information, contact:



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