

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

PIF

Textile sector

Context

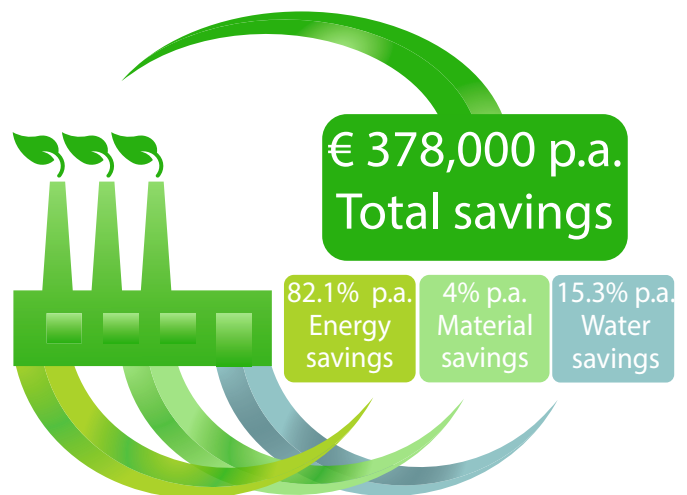
Number of employees: 160

Key products: Upholstery Fabric and Clothing, Indoor and Outdoor Furniture

Main markets: Local and international

Founded in 1975, PIF specializes in design, manufacture and decoration of upholstery. Leader of the local market, focused on fulfilling commitments, control and reduction of costs and ongoing improvement of performance, the company has implemented a quality management system committed to customer satisfaction, through the creation of a wide range of textile designs where technology and art are integrated, in compliance with the regulation in force and the environment. Adherence to the TEST approach will enable it to establish a dynamic of progress in which the quality and culture of performance are major components.

Benefits



Graphic: UNIDO

The MED TEST II project has identified opportunities for total annual savings of € 378,000 in water, energy and raw materials for a projected investment of € 1,446,470. The average return on investment period for the identified RECP measures is 3.8 years. About 85% of the measures identified have been accepted by the management and are being implemented.

Thanks to improvement of the organization, optimization of production, technological upgrade and installation of more efficient equipment, these measures will make it possible to reduce energy consumption by 82,1%, water consumption by 15.3% and farm materials (chemical and auxiliary) by 4%. The environmental benefits achieved by these measures will reduce annual charges and reduce CO₂ emissions by 88.4% (1,686 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
Electric power and compressed air	31,013	17,710	1.8	-	177	Total: 1,686 t CO ₂ 3,584 m ³ waste water 3.4 t solid waste
Thermal energy and water conservation	101,084	53,420	2.0	1,184 m ³ water	1,884	
Improvement of organization and optimization of production	50,320	10,814	4.7	3.4 t raw materials	126	
Optimization of the dyeing process and technological upgrade of winding equipment	988,593	251,880	2.9	2,400 m ³ water	1,210	
Photovoltaic installation	275,460	44,176	6.2	-	565	
TOTAL	€ 1,446,470	€ 378,000	3.8	3.4 t raw materials 3,584 m³ water	3,963 MWh	

¹ Numbers based on production value from 2015

Electric power and compressed air

Power consumption will be reduced through measures aimed at optimizing contract power, improving the performance of indoor and outdoor lighting by installing LED appliances. The production of compressed air will be improved by more precise regulation and a leak detection and repair campaign. Progressive replacement of electric motors with high efficiency motors will further increase energy efficiency.

Thermal energy and water conservation

The thermal energy costs will be reduced by insulation of all hot surfaces of the production circuit, improvement of combustion efficiency of boilers by automatic regulation, the use of reverse osmosis water as back-up, and the recovery and re-vaporization of the condensates for preheating. The installation of a heat exchanger, optimization of consumption and recycling of backwash water will generate significant water and energy savings.

Organization improvement and product optimization

The implementation of an electrical energy, a thermal and water management system, to implement the ISO 50001 standard on energy management will allow a more economical use of resources. The improvement of storage conditions of raw materials and finished products and staff training will increase motivation and productivity, while improving safety.

Optimization of the dyeing process and technological upgrade of winding equipment

The optimization of the dyeing process combined with the technological upgrade of dyeing and winding equipment will allow, despite significant investment, improved performance and very significant savings in water, electrical and thermal energy.

Photovoltaic installation

The independent production of photovoltaic electricity (330 kWc) will cover more than 40% of annual consumption will have a positive impact on the company's environmental performance.

For more information, contact:



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