

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.

# Tunisia

## Global Washing (GWASH)

### Textile sector

#### Context

Number of employees: 145

Key products: Denim articles for various brands including their own brand of sportswear

Main markets: International

Management standards: ISO 14001 is currently being introduced

Active in the TEXTILES AND CLOTHING sector, Global Washing (GWASH) specialises in washing, dyeing and special effects for jeans items. The company is located on Route de Menzel Te-mime, Korba, Tunisia.

GWASH is entirely dedicated to exportation, mainly to European Union markets.

*“Before the start of the project, the company was spending significant sums on its energy bills, and we faced an uphill struggle in terms of competition. Participation in MEDTEST required meeting our expectations in terms of facing the challenges of improving our productivity and resource usage efficiency”*

Moez Bel Hadj Rhouma  
The Manager

#### Benefits



Graphic: UNIDO

As part of the MED TEST II project, the application of an RECP approach has led to the identification of total annual savings corresponding to EUR 61,790, particularly in energy and water, versus a total investment of EUR 68,392. The average return on investment term varies between an immediate return and 37 months.

Energy and water consumption were reduced by 40% and 35% respectively.

All of the projects will enable an improvement in the company’s environmental performance by reducing CO<sub>2</sub> emissions by 36%.

The majority of the identified tasks (92%) were accepted and approved by the company manager, and the company set about implementing these immediately; the remainder (8 %) of the tasks will be retained for further study.

## Saving opportunities<sup>1</sup>

Action	Economic key figures			Resource savings & Environmental impacts per year		
	Investment euro	Savings euro / Yr.	PBP Yr.	Water & Materials	Energy MWh	Pollution reduction
Reconditioning of leaching machinery automation	14,348	13,043	1.1	6,000 m <sup>3</sup> water	235	Total: 236 t CO <sub>2</sub>
Boiler and steam system optimisation	31,435	34,071	0.9	4,212 m <sup>3</sup> water 0.5 t chemical products	657	
Optimisation of compressors, lighting and the electrical system	22,609	14,676	1.5	-	119	
<b>TOTAL</b>	<b>€ 68,392</b>	<b>€ 61,790</b>	<b>1,1</b>	<b>0.5 t raw materials 10,212 m<sup>3</sup> water</b>	<b>1,011 MWh</b>	

<sup>1</sup> Numbers based on production value from 2016

### Reconditioning of leaching machinery automation

The pulse counters on the leaching machinery are all broken, and several machine programmers are out of order. The reconditioning of the leaching machinery automation will ensure rigorous tracking of orders and consumption.

This measure has enabled a reduction in processing times as well as of approximately 10% and 20% in energy consumption and process water respectively, as well as an improvement in productivity and a reduction in the number of reject items.

### Boiler and steam system optimisation

These projects include the installation of a unit to purify the supply water for the boilers by installing an osmosis unit as part of a complete review of the steam generation facility. For a production rate of 36,000 t of steam per year at 8 bar, we aim to move from an initial third rate of 16% to a third rate of 3%. Other projects, such as adjusting the softener regeneration cycle, cleaning the boiler and replacing joints, the construction of two separate locations for the boiler and the compressors in accordance with standard requirements, the implementation of an energy accounting system, the optimisation of the steam facility and finally, a review of the required natural gas flow rate have resulted in very considerable gains in terms of gas, totalling 10% of total consumption for 2016 as well as a reduction of 0.5 t of chemicals.

### Optimisation of compressors, lighting and the electrical system

This involves the optimisation of several energy parameters, such as the power factor at the transformer level, the optimisation of the lighting and compressed air installations; a review of the contract power has also been performed. All of these tasks have resulted in significant economic and environmental gains.

*“The MED TEST II project has allowed us to see our non-product outputs (NPO) in a different way, and to no longer consider these as rejects, but started, to treat them as production losses and a source of improvements in terms of resource savings. The gains resulting from the tasks performed are beginning to be noticeable, and we intend to continue with the TEST approach in our production management”*

Moez Bel Hadj Rhouma  
The Manager

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