

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

Pâtes Warda

Food sector

Context

Number of employees:	400
Key products:	Pasta and couscous
Main markets:	Local and international
Management standards:	ISO 22000, ISO 140001, ISO 9001, IFS

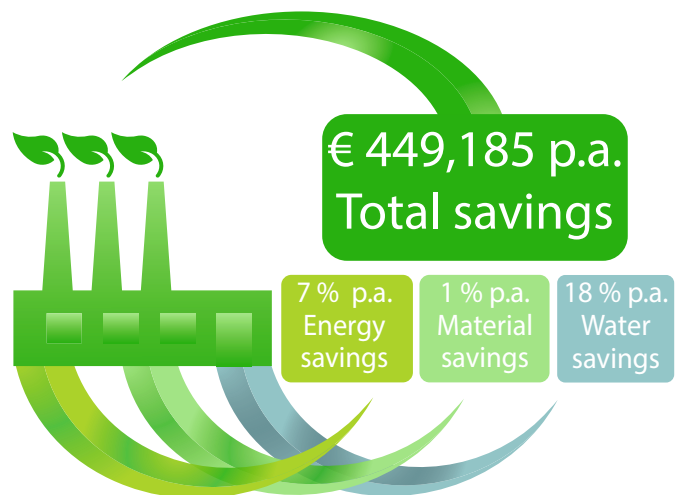
Leader in the pasta and couscous production sector in Tunisia, Pâtes Warda is a subsidiary of the Rose Blanche Group. Established in 1997 and located in Sousse, with 135,000 t the company has the largest production capacity in Africa; 60% of its production is sold on the local market, while the remaining 40% is exported to more than 40 countries on the 5 continents (France, USA, the UK, Japan, West Africa, etc.).

At the start of the MED TEST II project, the company was already ISO 9001 & ISO 22000 and ISO 14001 certified, and it was undergoing IFS certification.

“Aware that a reduction in the negative impact on the environment is a factor for progress, a lever for innovation, and a measure of confidence in motivating our employees, we have introduced this as an axis for economic efficiency and a priority in our development strategy”

Nader Arbi
Managing Director

Benefits



Graphic: UNIDO

The MED TEST II project has identified total annual savings of EUR 449,185 resulting from energy and raw material savings with a total investment of EUR 1,353,793.

The return on investment term varies between 4 months and 3 years. The company's management have decided to implement 72% of the 11 identified measures.

Resource savings will comprise approximately 1% of the purchase cost of raw materials, 7% of energy costs, and 18% of water purchase costs, and will be achieved through the implementation of RECP measures.

The environmental benefits include a 4.5% reduction in CO₂ emissions and a 50% reduction in solid waste generation.

Encouraged by the results of the TEST project, the company intends to integrate the MFCA tool into its accounting system, and proceed to migrate the environmental management system in accordance with the requirements of the ISO 14001 v 2015 standard.

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
Implementation of automated racking for the finished product	1,100,000	357,600	3	1,100 t finished products 7.7 t packaging		Total:
Installation of two cyclophanes for the recovery of production chimney dust	17,000	10,000	1.7	9,000 m ³ water		1,111 t CO ₂
Reduction in product losses along the length of the production lines	180,000	37,500	4.8	106 t primary materials		1,179 t solid waste
Couscous cooking optimisation	21,000	19,641	1	4,104 m ³ water	4,303	
Reduction in energy consumption	35,793	24,444	1.5	-	647	60 t dust
TOTAL	€ 1,353,793	€ 449,185	3	1,206 t raw materials 13,104m³ water 7.7 t packaging	4,950 MWh	

¹ Numbers based on production value from 2015

Implementation of automated racking for the finished product

This measure comprises the first automated installation in Africa in the food sector, and consists of implementing automated storage of finished products pallets through the installation of PLC-controlled racking enabling the storage of 7,500 t of finished product. In addition to accelerated delivery and better inventory organisation, this measure has enabled a 46% reduction in the quantity of solid waste.

Installation of two cyclophanes for the recovery of production chimney dust

This measure consists of the recovery of dust generated by the pasta production chimneys and hence reduces the frequency with which the rooves, onto which dust was previously accumulated, require cleaning. This task has enabled a reduction in water consumption of 12%, and prevented air pollution through the recovery of 60 t of dust.

A reduction in losses generated along the production lines

In this context, a series of measures targeting a reduction in losses along the production lines had been defined: these involve the introduction of shameless and guide rails on the couscous line and the modification of the elevator loading system on the spaghetti line. This new system will also improve variations in product weight and quality. All of these measures have enabled a 3% reduction in the generated solid waste.

Couscous cooking optimisation

This involves the installation of a flowmeter at the entrance to the cooker in order to optimise steam quantities based on the quantity of semi-finished material inside the cooker. This measure has enabled a 5% reduction in water and thermal energy consumption, and 3.5% in CO₂ emissions.

Reduction in energy consumption

The main measures identified in this area comprise: 1) Improvement in boiler water quality; 2) Optimised compressor service through installation of Sigma Manager system and 3) Introduction of an energy management system by implementing an energy data acquisition system connected to a computer processing workstation. The project consists of adding two (2) acquisition hubs, thirty-five (35) communication interfaces and communicators linking the hubs with the dedicated energy computer.

“The company’s environmental policy has switched from a preventive approach to a sustainable approach in accordance with the MED TEST II programme, which recommends sustainable production and consumption”

Yassine Elloumi
Quality Director

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