

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

VMM Vinaigrerie Moutarderie de Maroc Food sector

Context

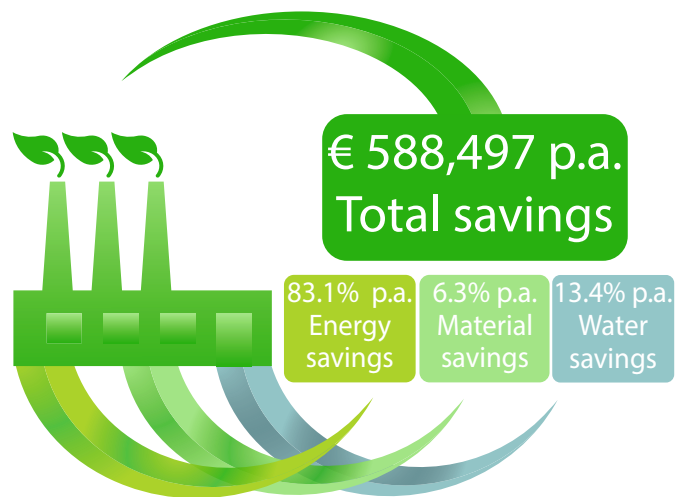
Number of employees: 250

Key products: Vinegar, jams, honey, condiments and sauces, pickles and olives, canned fish, table salt.

Main markets: Local

VMM Vinaigrerie Moutarderie de Maroc, established in 1969, specializes in the production of vinegar, condiments and in the processing of food products including jams, table olives, apricot pulp, pickles and canned fish. The company has contributed to the development of outlets for the agricultural processing sector and has offered a wide range of quality and diversified products on the Moroccan market. VMM is ISO 9001 version 2008 certified for all activities, and ISO 22000 version 2005 certified for the production of fish and condiments. The company is committed to the TEST approach in order to integrate elements of resource savings and clean and sustainable production.

Benefits



Graphic: UNIDO

The MED TEST II project has identified opportunities for total annual savings of € 588,497 in raw materials, water and energy for a projected investment of € 1,322,764. The average return on investment period on the identified RECP measures is 2.2 years.

The 29 recommended measures have been accepted by the management, 24 (83%) are in the process of being implemented, while the other (5) require further review.

Through the improvement and optimization of production and the installation of more efficient equipment, the measures implemented will reduce energy consumption by 83.1% and water consumption by 13.4%. The environmental benefits achieved through several water and energy treatment and recovery measures will reduce annual expenses and reduce CO₂ emissions by 70.1% (3,413 t).

The environmental assessment of the company will be strengthened by the establishment of an environmental information system, a wastewater treatment plant and the reuse of some of these in the plant.

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
Increased performance of electrical utility equipment including compressed air	62,563	36,496	1.7	-	383	Total: 3,413 t CO ₂
Increased efficiency of the thermal and water system	90,735	59,634	1.5	4,621 m ³ water	1,856	
Increased productivity by automating certain process steps	225,487	241,434	0.9	354 t raw materials	-	3,584 m ³ waste water
Improvement of management, organization and optimization of production	78,938	114,886	0.7	1,100 m ³ water 52 t raw materials	104	
PV electrical production, biomass boiler	865,041	136,047	6.4	-	7,402	
TOTAL	€ 1,322,764	€ 588,497	2.2	406 t raw materials 5,721 m³ water	9,745 MWh	

¹ Numbers based on production value from 2015

Enhanced performance of electrical utility equipment

Energy consumption will be reduced through measures aimed at optimizing contracted power, improving performance of indoor lighting and phased replacement of electric motors with more efficient models. Reconfiguring various compressors for more efficient management, repairing leaks and improving the circuit will optimize the production of compressed air.

Enhanced performance of the thermal system and water conservation

The thermal energy costs will be reduced by heat insulation of all the hot surfaces of the production circuit, installation of an automatic system for purging boilers, improving combustion efficiency, re-vaporization of condensates and installation of a combustion air preheating system through thermal energy recovery around the chimney walls. Notable gains are also made on water consumption.

Increased productivity by automating certain process steps

Automation of loading and unloading of raw materials throughout the production cycle and automation of loading and quality control "Brix: concentration" will, in addition to significant raw material savings, improve the ergonomics and safety of workstations not to mention increase productivity.

Improvement of management, organization and optimization of production

Enhancement of the organization through the 5S approach, the organization of preventive maintenance and the implementation of an electrical energy, thermal and water management system, will increase productivity and allow optimization and control of continuous process, reducing losses in unproduced outputs and better use of resources (raw materials, water, energy).

PV electricity production, biomass boiler

Installation of an autonomous photovoltaic power production unit for (661 Kwc) self-consumption will cover almost 30% of annual consumption. The installation of a biomass boiler with a capacity of 8 T/h will ensure the totality of the residual thermal requirement. This will generate a large reduction in GHG emissions.

For more information, contact:



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