

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

GPC-Kenitra

Chemical sector

Context

Number of employees: 120

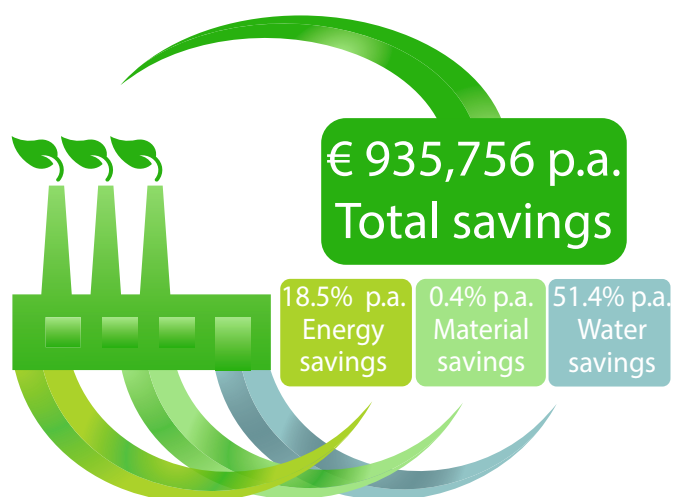
Key products: Paper for manufacturing cardboard (from paper and recycled cardboard)

Main markets: Sole Client (GPC Carton)

Since its establishment in 1992 in Kenitra, GPC, a subsidiary of the Ynna Holding Group, is a Moroccan leader in corrugated packaging, widely used in the agricultural and industrial sectors. There are currently 7 production sites in Kenitra, Agadir, Mohammedia and Meknes, in addition to a collection centre for old paper and cardboard in Greater Casablanca.

At one of the GPC sites in Kenitra, the unit for manufacturing paper for cardboard from recycled paper and cardboard is expanding. A new production line installed in 2015-2016 has quadrupled previous production. GPC has become the largest corrugated cardboard manufacturing unit in Africa under its new GPC unit, has also embarked on a quality and innovation process that has earned it ISO 9001 certification in December 2003.

Benefits



Graphic: UNIDO

The MED TEST II project identified opportunities for total annual savings of € 935,756 in raw materials, water and energy at a projected investment of € 2,668,055. The average return on investment period for the identified RECP measures is 2.9 years. All of the steps identified have been accepted by the management and some have already been implemented.

Due to the improvement and optimization of production and the installation of more efficient equipment, these measures implemented will reduce energy consumption by 18.5 %, water consumption by 51.4 % and raw materials by 0.4 %. The environmental benefits achieved through photovoltaic electric production and several product optimization measures will reduce annual energy expenses and decrease CO₂ emissions by 16.8 % (7,728 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	81,725	35,155	2.3	-	306	Total: 7,728 t CO ₂ 19,010 m ³ waste water 190 t solid waste
Reverse osmosis for boiling water and reducing heat requirements	124,330	131,647	0.9	16,820 m ³ water	5,942	
Improved management of wastewater and solid waste	584,875	68,535	8.5	2,190 m ³ water	1,783	
Substitution of auxiliary products and improved organization of production	125,360	411,796	0.3	190 t raw materials	8,926	
Independent PV energy production	1,751,765	288,623	6.1	-	3,689	
TOTAL	€ 2,668,055	€ 935,756	2.6	190 t raw materials 19,010 m³ water	20,646 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, improving the performance of indoor and outdoor lighting at the sites of the two production units by installing LED appliances and upgrading of the compressed air system.

Reverse osmosis for boiling water and reducing heat requirements

The improvement of the thermal efficiency will be done by installation of an osmosis water production unit in addition to the boilers, thermal insulation of hot surfaces and energy recovery at the air compressors.

Improved management of wastewater and solid waste

Implementation of a treatment plant and wastewater recycling toward the process in addition to the installation of a waste disposal site will achieve substantial gains in procedure without taking into account the environmental impact that will result.

Substitution of auxiliary products and improved organization of production

Substitution of auxiliary products will reduce the rate of rips in the process and reduce heat. The implementation of various organizational processes (5S, TPM, Visual management) will increase productivity of the production teams.

Independent PV energy production

The independent production of photovoltaic electricity (2.016 kWp) will cover more than 10% of annual consumption of the company and more than a quarter of consumption during regular business hours (day time).

For more information, contact:



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