

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

OFFSET POLYPLAST

Chemical sector

Context

Number of employees: 150

Key products: Dairy Leaf Jars, Plastic Packaging Film, Thermoforming, Plates, Plastic Panels

Main markets: Local and international

OFFSET POLYPLAST, founded in 1990, specializes in the plastics industry, extrusion of polypropylene sheets and polystyrene, thermoforming, is a leader in the manufacture of packaging for the dairy and food industry. The key strength of the company is the extension of activities to different sectors of agri-food packaging in Morocco. The company has established independent companies operating in these different industries. OFFSET POLYPLAST is ISO 9001 and ISO 22000 certified, and aims to introduce a management system integrating safety and the environment in accordance with ISO 18001 and 14001.

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 identified opportunities for total annual savings of € 203,773 in raw material, water and energy for a projected investment of € 818,369. The average return on investment period for the identified RECP measures is 4 years.

Of the 14 recommended measures, 86% (12) have been accepted by management and are under implementation, one measure is under further review, and a second has been rejected. The company also has solid polyethylene waste that it will offer to cement plants for energy recovery, which will have a positive impact on the company's environmental performance.

Through the improvement and optimization of production and the installation of more efficient equipment, these measures implemented will reduce energy costs by 21.4% and water consumption by 3%. The environmental benefits achieved through several energy management measures and the use of solar energy, will reduce annual expenses and decrease CO₂ emissions by 21.4 % (1,662 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
Cooling unit and replacement of DC motors	350,193	92,575	3.8	-	914	Total:
Thermal insulation of surfaces	13,191	4,590	2.9	-	53	1,662 t CO ₂
Compressed air network	13,191	16,476	0.8	-	190	124 m ³ waste water
Energy management system	26,383	18,476	1.4	124 m ³ water	211	200 t solid waste
Independent energy production and energy recovery	415,411	71,656	5.8	-	894	
TOTAL	€ 818,369	€ 203,773	4	124 m³ water	2,261 MWh	

¹ Numbers based on production value from 2015

Cooling unit and replacement of DC motors

Energy consumption will be reduced through measures aimed at optimizing contract power, improving the performance of indoor and outdoor lighting by installing LED appliances and phased replacement of electric motors with more efficient models. The replacement of office cooling units with variable refrigerant flow units (RVDs) and finally, installation of a new central cooling unit of the Quantum or Turbocor type equipped with speed variation will generate additional gains.

Thermal insulation of surfaces

Heat-insulating the extrusion heaters, boosting their heat efficiency and limiting heat loss and that of all cold surfaces of the production circuit (with a temperature <15 °C) will reduce energy consumption while improving ergonomics, safety and comfort of staff.

Compressed air network

The production of compressed air will be improved by the acquisition of a management system allowing a closer regulation of the pressure and the smooth running of all the compressors for an optimized consumption, accompanied by a leak detection and repair campaign.

These steps will reduce the production of compressed air to a level that meets the needs of the company.

Energy management system

The introduction of an electrical energy, thermal and water management system to implement ISO 50001 standard on energy management, will allow improvement, optimization and continuous process management, reduction of non-produced output loss and better use of resources (raw materials, water, energy)

Independent energy production

The independent production of photovoltaic electricity for self-consumption (579 kWc) will have a positive impact on the company's environmental performance.

For more information, contact:



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