

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

CCC AIGUEBELLE

Food sector

Context

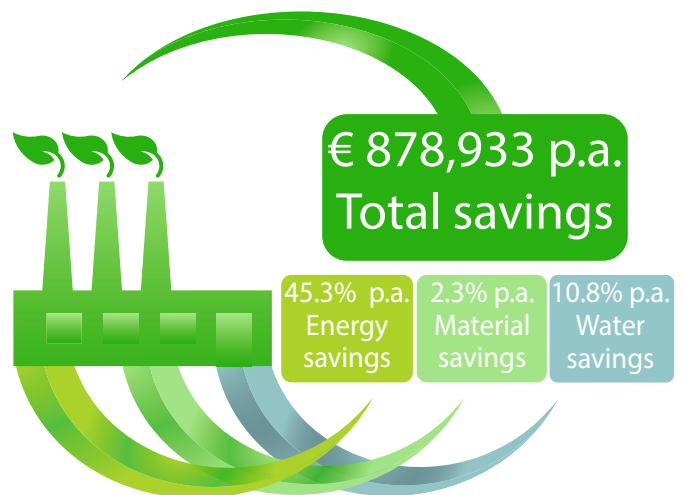
Number of employees: 146

Key products: Classic chocolate, New Light Bars, Gourmet Sweets, Assortments to Sample, Professional Line for Cooking

Main markets: Local, export (30% from CA: North Africa, West Africa, Western Europe)

The AIGUEBELLE Company (Chérifienne de Chocolaterie) was founded in 1982. The strength of the company is the stringency in selecting raw materials, expertise, the commitment of the teams and the continuous quest for excellence, these elements have allowed it to maintain a leading position in the national market and to position itself internationally. Its strategy is based on training, research and development of recipes and products, partnerships and the extension of its range on complementary products such as pastry fondants and cocoa powder to strengthen its presence among professionals. Aiguebelle is ISO 9001 certified.

Benefits



Graphic: UNIDO

The MED TEST II project identified opportunities for total annual savings of € 878,933 in water, energy and raw materials at a projected investment of € 1,171,813. The average return on investment period for the identified RECP measures is 1.3 years.

Of the recommended 35 measures, 89% have been accepted by management and are being implemented, three (3) measures will be studied further and only one has been rejected.

Through the improvement and optimization of production and the installation of more efficient equipment, these measures implemented will reduce energy consumption by 44.9 %, water by 10.8 % and raw materials by 2.3 %. The environmental benefits achieved through several water and energy treatment and recovery measures will reduce annual charges and reduce CO₂ emissions by 45.6 % (1,678 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
Standalone PV electricity production, lighting and compressed air	100,783	49,019	2.1	-	438	Total:
Improved combustion, insulation and steam network	99,517	47,832	2.1	-	990	1,678 t CO ₂
Production refrigeration production	497,761	108,751	4.6	33 t raw materials	753	2,474 m ³ waste water
Monitoring production performance	213,439	524,619	0.4	2,474 m ³ water 23 t raw materials	981	152 t solid waste
Liquid, atmospheric and solid waste management	260,313	148,712	1.7	96 t raw materials	-	
TOTAL	€ 1,171,813	€ 878,933	1.3	152 t raw materials 2,474 m³ water	3,162 MWh	

¹ Numbers based on production value from 2015

Independent PV electricity production, lighting and compressed air

Power consumption will be reduced through measures aimed at optimizing contracted power, improving the performance of indoor and outdoor lighting by installing LED appliances, the phased replacement of electric motors by more efficient models, as well as the autonomous production of electricity (83 kWp) by photovoltaics. More efficient management and repair of leaks will optimize the production of compressed air.

Improved combustion, insulation and steam network

Thermal energy costs will be reduced by heat-insulating all hot and cold surfaces of the production system, using reverse osmosis water as boilers, condensate re vaporization, and improving efficiency and reducing boiler heat loss. The installation of a combustion air preheating system using thermal energy recovery around the walls of the chimneys will generate additional savings.

Improved refrigeration production

Despite a significant initial investment, the replacement of air conditioners with high efficiency central units and adapted AHUs will better manage the indoor conditions of the conditioning room to avoid production losses and the flexibility offered to optimize energy costs.

Monitoring production performance

Productivity will be significantly increased by eliminating bottlenecks at different stages of production, automating them and improving maintenance. The use of statistical means and the implementation of the six-sigma method will allow the continuous improvement, optimization and control of processes, the reduction of losses in unproduced outputs and a better use of resources (raw materials, water, energy).

Liquid, atmospheric and solid waste management

The company will be able to make substantial gains by minimizing the production of solid waste and recovering it for recycling. Its environmental record can be significantly improved by the implementation of optimized waste management, sanitation of air emissions and wastewater.

For more information, contact:



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