

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.

Egypt

Arab French Company for Dairy and Cheese Products (AFDPL)

Food and beverage sector

Context

Number of employees:	250 full-time employees
Key products:	Processed cheese in portions, spreads, and sachets
Main markets:	Local and international market (60-70% export)
Management standards:	ISO 14001: 2015 OHSAS 18001: 2007 ISO 22000: 2005 FSSC 22000

The Arab French Company (AFDPL) is the Egyptian subsidiary of the French Savencia Group (formerly Soparind Bongrain), a worldwide leader in cheese specialties and food products operating more than 85 production units distributed across six continents. The company's vision is to exploit the vast cheese market potential in the Middle East Region and Africa.

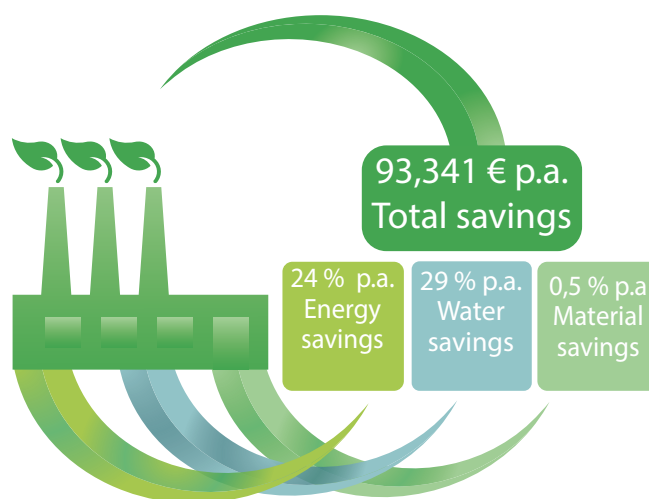
AFDPL is a medium-sized enterprise founded in the year 2000 as a private shareholding company specialized in the production of processed cheese with a total annual production of 7,000 tons directed to local and export markets (MENA region and Asia).

The company joined the MED TEST II Project in order to identify opportunities for reducing materials, water and energy consumption in addition to training its employees on a resource efficient and cleaner production (RECP) concept.

“As part of the Savencia Group, we always care to deliver high-quality products, optimize the use of resources and protect the environment so we were very keen to join such an international project to acquire new and different methodologies for tracking losses and for developing appropriate measures to reduce them and to save our natural resources as well as for ensuring a sustainable development.”

Sherif Zulficar,
Plant Manager

Benefits



Graphic: UNIDO

A total of 14 resource efficiency measures were identified during the MED TEST II project, two of which were already implemented, five are under implementation and seven are planned to be implemented. There is a total annual saving potential of 93,341 euros with an estimated investment of 52,890 euros resulting in an average payback period of 0.6 years.

Consumption of raw materials will be reduced by about 0.5%, water consumption by 29% and energy consumption by 24%, resulting in a 26% reduction in CO₂ emissions.

Two further developed environmental measures are aiming at reducing heat stress in the production area and at rehabilitation of the existing industrial waste water treatment plant in order to comply with emission limit values and to utilize the treated wastewater for the irrigation of green areas. The EPAP III financing facility was recommended to the company for implementation of these measures and the company is investigating its application. During the course of the project, the company realized the importance of systematically monitoring its consumption of important natural resources on a daily basis as it installed meters for energy and water. Finally, the company upgraded its ISO 14001 standard to be compatible with the 2015 version, committing to the Resource Efficient and Cleaner Production (RECP) concept.

Saving opportunities¹

Action	Economic key figures			Resource savings & environmental impacts per year		
	Investment euros	Savings euros / yr.	PBP years	Water and raw materials	Energy MWh	Pollution reduction
Energy optimization	48,000	44,351	1	75 m ³ of water	1,670	Total: 568 t of CO ₂ 160 kg of COD 188 kg of BOD
Recycling and valorization of solid waste	0	45,822	Immediate	19.15 t of material	-	
Water conservation measures	3,390	2,460	1.4	8,630 m ³ of water	-	
Cleaning operations	1,500	708	2	861 m ³ of water	30	
Total	52,890 €	93,341 €	0.6	9,567.5 m³ of water 19.15 t of material	1,700 MWh	

¹ Numbers based on production value from 2015

Energy optimization

Energy mapping of the company's heat consumption revealed several different potential waste energy recovery points such as recovering heat from the UHT product cooling system, reusing steam condensate, optimizing the cooling water system, improving the temperature distribution in the chiller room, installing a boiler stack economizer and reducing the set steam pressure in the boilers.

Recycling and valorization of solid waste

This group of measures aims at implementing good housekeeping procedures for waste minimization and solid waste management. Main actions include sorting of the generated solid waste to be recycled outside the company instead of being disposed of as compressed mixed bulks. In addition, all off-spec products will be collected and reprocessed by producers of cattle feed instead of being incinerated.

Water conservation measures

Reduction of water consumption was achieved by collecting the last rinse water from the Clean-In-Place (CIP) process and using it in the pre-rinse step, by using trigger nozzles instead of open-ended hoses for floor washing, by supplying and installing water meters within the production hall for better consumption monitoring and by installing water efficient devices (i.e. water aerators and cistern flush bag). These measures will reduce total water consumption by about 29%. They will enable the company to reduce the capacity of the waste water treatment plant and the associated operation costs including costs of planned reconstruction.

Cleaning operations

The company uses regular hot water hoses in the equipment washing room without any water-saving devices. Installing mixing nozzles for hot water will therefore reduce the quantity of water used for cleaning, reduce the generated wastewater, and save steam needed for heating the cleaning water.

"The MED TEST II project fostered our team's understanding of resource efficient and cleaner production by applying simple methodologies to identify sources and causes of losses in order to address them and to reduce relevant costs."

Sherif Zulficar,
Plant Manager

For more information, contact:



United Nations Industrial Development Organization
 Department of Environment
 Vienna International Centre, P.O. Box 300
 1400 Vienna, Austria
 Telephone: +43-1 26026-0, Fax: +43-1 26926-69
 E-mail: c.gonzalez-mueller@unido.org
 Web: www.unido.org



EWATEC Consultants
 55 Adham St., #5 Rassafa Tower,
 Moharam Bay district, Alexandria, Egypt
 Tel: +203 3954703 Fax: +203 3954468
 E-mail: ewatecteam@gmail.com
 Web: www.ewatec-eg.com