

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

# Oil Tec Company for Oils & Detergents Food and beverage sector

### Context

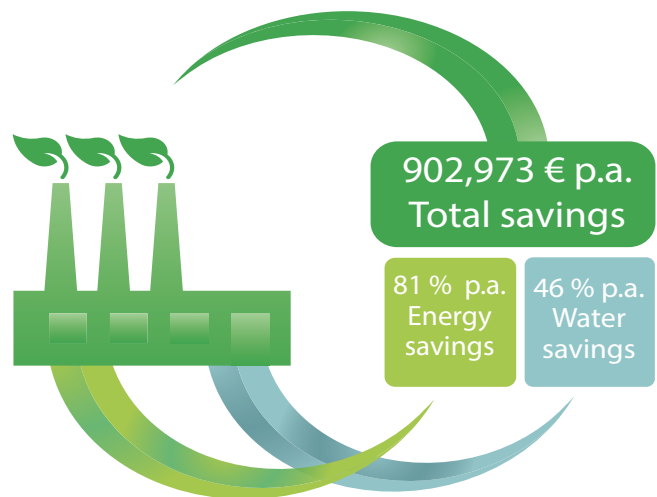
Number of employees:	420
Key products:	Refined oil (bulk and packed)
Main markets:	Local and international market (30%)
Management standards:	ISO 9001 OHSAS 18001 ISO 22000

Oil Tec Company for Oils & Detergents is one of the leading food companies in Egypt that was established in 2000 for producing refined edible oil, soap and detergents. It consists of two separate production plants; one for oil refining and the other one for producing soap and detergents. The project focuses on oil refining plant which produces 102,440 t/year. The company joined the MED TEST II project to get guidance on efficient use of resources (focusing on energy).

*“As we are suffering from high energy bills we were convinced to participate in the MED TEST II project in order to find solutions that will reduce our consumptions”*

Said Eid,  
General Manager

### Benefits



Graphic: UNIDO

A total of 8 measures were identified under the MED TEST II project, out of which one is implemented, three are under implementation, three are under study and one is discarded. The total annual savings are 902,973 euros with an investment of 1,054,150 euros. The average payback period is 1.17 years.

Annual energy cost will be reduced by about 81% which is equivalent to a reduction of about 68% of CO<sub>2</sub> emissions. The total cost of water will be reduced by about 46% with some resource efficient and cleaner production measures.

Using the Material Flow Cost Accounting (MFCA) tool of TEST approach, the company realized that its accounting system should be changed to achieve better tracking of materials, products and losses.

In parallel to the identification of saving opportunities, the company has updated its policy to integrate resource efficient and cleaner production concept to it.

## Saving opportunities<sup>1</sup>

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
Reducing the losses of raw materials and water	150	3,849	0.04	6,976 m <sup>3</sup> of water 11 t of raw materials	-	Total: 11,745 t of CO <sub>2</sub>
Dry condensing system	1,000,000	662,625	1.51	25,000 m <sup>3</sup> t of water	42,750	
Set of energy efficiency measures	54,000	236,499	0,23	-	15,424	
<b>Total</b>	<b>1,054,150 €</b>	<b>902,973 €</b>	<b>1.17</b>	<b>31,976 m<sup>3</sup> of water 11 t of raw materials</b>	<b>58,174 MWh</b>	

<sup>1</sup> Numbers based on production value from 2016

### Reducing the losses of raw materials and water

A number of good housekeeping practices have been suggested such as monitoring and recording the consumptions of all inputs including raw and auxiliary materials to achieve better resource use, establish preventive maintenance plan to reduce material losses and installing water meters to regularly monitor water consumption.

### Dry condensing system

Replacing the current conventional steam ejectors with new technique of dry condensing system in the deodorization process shall convert the water vapor directly into ice without passing the liquid phase. The implementation of such new technology will cause dramatic reduction of 90% energy of the deodorization process and 99% water. In addition; about 8,631 t/year of CO<sub>2</sub> emissions will be prevented.

### Set of energy efficiency measures

Several measures are being adopted for efficient use of energy. These measures include utilize the heat from steam condensate to preheat boiler feed water, replacing the malfunctioning steam traps and installing an economizer for boiler chimney.

*“The MED TEST II project gave the company the opportunity to enhance its understanding of resource efficiency and to discover more saving opportunities”*

Said Eid,  
General Manager

### For more information, contact:



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