

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

Tiger Coatings Company

Chemical sector

Context

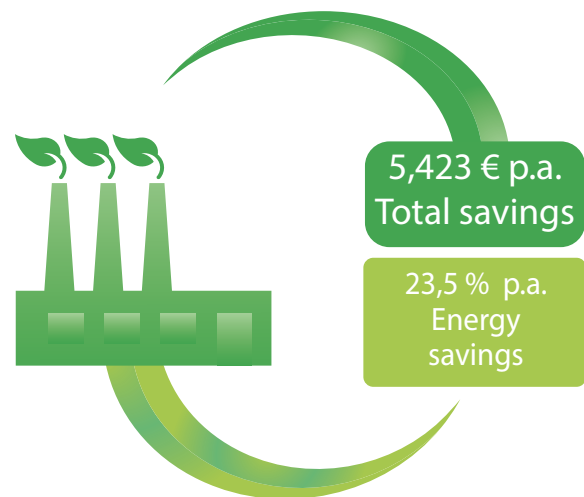
Number of employees:	35
Key products:	Powder coating for metal and high-quality paint coating
Main markets:	Egypt, Ghana, Kenya, Morocco and U.A.E.
Management standards:	ISO 9001/14001

Tiger Coatings Company for powder coating production founded under the Egyptian Law of Investment and Approvals from the Ministry of Trade and Industry is located in the Obour Industrial Zone. The company was established in 1998, and at the beginning of 2010 it joined Tiger Coatings International Group, Austria. The company's activity is mainly the production of high-quality powder coating for metal and high-quality paint coating produced from premium quality materials. It is constructed on an area of 3,000 m² and incorporates one plant.

“With raising prices for electricity in Egypt as result of governmental policy to decrease subsidies of energy and fuels, we were looking for ways to reduce our energy costs to be more cost-efficient.”

Eng. Amr Hassan, Managing Director
Tiger Coatings Egypt

Benefits



Graphic: UNIDO

The MED TEST II project identified a total annual saving of 5,423 euros mainly in energy use with an estimated investment of 23,525 euros. The average pay back period is 4.5 years. Eight saving measures have been identified during the project with the active support of the internal company team. All identified measures were accepted by the top management for implementation. To facilitate implementation of investment needing measures, the company was linked to one of the financing mechanisms that provides loans for energy related measures.

The energy consumption will be reduced by 23.5% and a total of 51 t of CO₂ emissions will be eliminated.

During the course of the project, the company became aware of the importance of having a reliable information system and has decided to install submeters to monitor specific consumptions. After implementing Material Flow Cost Accounting (MFCA) as part of the TEST project, the company realised that a remarkable portion of non-product output costs is generated from the spare parts and maintenance costs. Therefore, they adopted a maintenance management program to reduce that cost.

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
Lighting system optimisation	1,000	785	1.3	-	20	Total: 51 t CO ₂
Compressed air system optimisation	8,550	1,990	4.3	-	52	
Chilled water system optimisation	10,975	952	11.5	-	36	
Good housekeeping measures	-	347	Immediate	-	9	
Maintenance	3,000	1,350	2.2	-	-	
Total	23,525 €	5,423 €	4.3	-	106 MWh	

¹ Numbers based on production value from 2016

Lighting System Optimization

Electricity consumption will be reduced by replacing inefficient lighting units with more efficient LED units. As the energy consumption by the lights represent almost 10% of the total energy consumption by the company, this measure will assist in decreasing the electricity bill by at least 5%.

Compressed Air System Optimization

Compressors account for around 25% of the energy consumption. There is a lot of leakage or inappropriate use of the compressed air network at end-users, in addition to the limited air storage capacity. Eliminating the inappropriate uses, reducing the leaks, and increasing the storage volume will reduce the operating time of the compressors, which will be reflected in its energy consumption. Further decrease of energy consumption will be achieved by replacement of the compressor with a larger high-efficiency compressor with variable speed drive.

Chilled Water System Optimization

The company has two chillers that are running at the end of their service life. The proposed solution here is to replace them with one larger unit to increase the cooling capacity and save energy. Moreover, the company was recommended to improve the insulation of cold water pipes including the chilled water return pipe.

Good Housekeeping Measures

Adopting good housekeeping measures, setting standard operational procedures, and increasing the training and awareness of the company staff and workers will have a direct impact on productivity, and will save at least 2% of the total company consumption.

Maintenance

Implementing a systematic maintenance programme will assist in reducing the cost of spare parts used within the company, and reduce production downtime.

“The MED TEST II project did a good job. All consumptions were allocated to the relevant production phases and improvement solutions were well suggested to be SMART (Specific, Measurable, Attainable, Relevant and Time Based.)”

Eng. Amr Hassan, Managing Director
Tiger Coatings Egypt

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