

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.

Jordan

Blue Diamond Food Industries Company

Food and beverage sector

Context

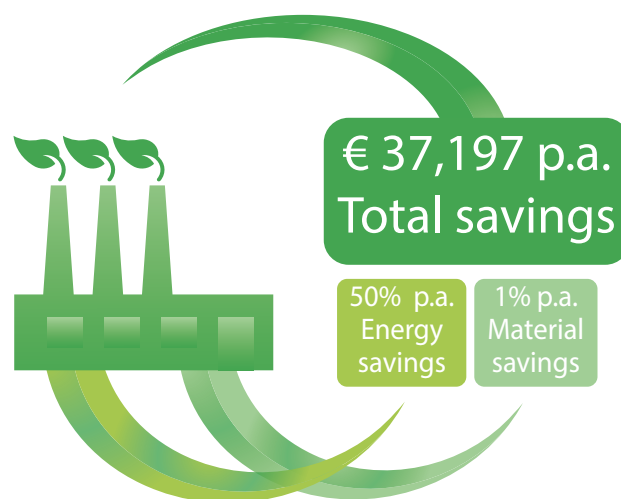
Number of employees:	70
Key products:	Chips
Main markets:	Local and regional (20%)
Management standards:	None

Blue Diamond Food Industries Company is a medium-sized enterprise that was established in 2015 producing chips for the local and regional markets. The company participated in MED TEST II project to reduce production losses and costs through a more efficient use of resources (focusing on energy). During the project, the company has been working to obtain the ISO 22000 certification.

“We joined the project to find solutions that could reduce losses in energy and raw material consumption and to increase our productivity.”

Eng. Ali Suweileh,
Factory Manager

Benefits



Graphic: UNIDO

The MED TEST II project identified total annual savings of 37,197 euro in energy and raw materials with an estimated investment of 33,827 euros and an average pay back period of 0.9 year. A total of 14 saving options were identified to reduce the consumption of energy (electricity and fuel) and raw materials, and over 85% were accepted by the top management for implementation.

Energy consumption will be reduced by approximately 50% and the CO₂ emissions will be reduced by 153 tons/year.

The company also issued its EMS policy statement and was provided with a guide to establish RECP integrated EMS system.

Saving opportunities¹

Action	Economic key figures			Resource savings & Environmental impacts per year		
	Investment euros	Savings euros / Yr.	PBP Yr.	Water & Materials	Energy MWh	Pollution reduction
Gas leakage and compressed air system	€ 26,406	€ 20,959	1.3	4 tons Raw material (NO ₂)	171.6	Total: 153 tons of CO ₂ 1 ton Solid waste
Lighting and insulating options	€ 5,949	€ 9,384	0.6	-	146.1	
Burner exchange	€ 687	€ 5,891	0.1	-	59.2	
Saving in materials	€ 785	€ 963	0.8	1 ton Raw materials	-	
TOTAL	€ 33,827	€ 37,197	0.9	5.0 tons Raw materials	376.9 MWh	

¹ Numbers based on production value from 2015

Gas leakage and compressed air system

A gas leak in NO₂ pipe network was detected and repaired. Options were implemented to reduce the electricity consumption in the compressed air system, such as: arresting at least 90% of the leakage in compressed air system, reducing the set point from 9 to 4 bar, using solenoid valves for air-flavor mixing lines to save air in idle operations, using a small blower instead of the compressed air for employees personal cleaning, turning off the Atlas Copco compressor.

Lighting and insulating options

A number of inefficient fluorescent lamps, spot halogen lamps and incandescent lamps are recommended to be replaced by efficient LED bulbs. Significant heat losses have been noticed in the five chips roasters and flavours tank due to the lack of insulation. Insulating them properly will reduce the fuel consumption.

Burner exchange

In the production of chips, a gas flame is used to heat the production equipment. Some outlet nozzles are dirty or clogged. The burner should be cleaned regularly to ensure homogeneous heating of the product while saving energy. Furthermore, instead of the outdated burner, a ceramic surface burner should be used, which will lead to a saving potential up to 17%.

Saving in materials

When filling the bagging machine, approximately 10% of the materials fall in front of the filler neck. By installing a metal plate, this can be fixed.

“The project fully met our initial expectations in reducing energy and raw materials consumption. Moreover, the integrated TEST approach has qualified our staff on the tools of RECP assessment, MFCA and EMS. We will continue to integrate the TEST methodology to establish a profitable environmental management at our company.”

Eng. Ali Suweileh,
Factory Manager

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