

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

Al-Haj Mahmoud Habibah & Sons Co. Food and beverage sector

Context

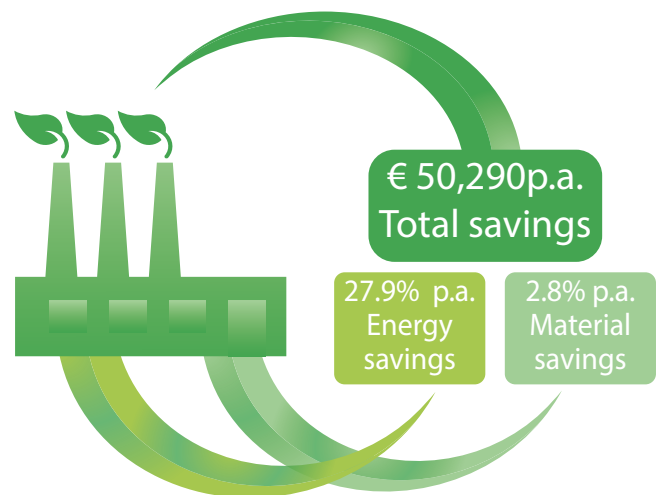
Number of employees:	90-100 full time employees
Key products:	Different types of oriental sweets and pastries (hot and cold)
Main markets:	Local
Management standards:	ISO 9001

Al-Haj Mahmoud Habibah & Sons Co. is a medium-sized enterprise that was established in 1951 for producing different types of orient sweets and pastries (hot and cold) for the local market. The company participated in MED TEST II project to reduce materials and energy losses, and to enhance its awareness in environmental issues. The company is certified for ISO 9001 and during the project implementation period, the company designed RECP integrated EMS system, conducted the environmental measurements and applied for Lloyd's audit to get ISO 14001 certification.

“Our main target of participating in MED TEST II project was to reduce material and energy losses, and to enhance our awareness in environmental issues and how to improve our compliance with international standards and requirements in order to improve our competitiveness. Our participation is also expected to improve our knowledge of the available assessment tools such as the TEST assessment, MFCA and EMS to improve the awareness of our staff and sustain improvements.”

Eng. Waleed Habibah,
Plant Manager

Benefits



Graphic: UNIDO

The MED TEST II project identified total annual savings of 50,290 euro in energy and raw materials with an estimated investment of 67,460 euro. The average pay back period is 1.3 years, and 46% of the measures are already implemented or under implementation. Over 92% of the identified measures were accepted by the top management for implementation by implementing the same proposed measures or better alternatives.

Materials consumption will be reduced by 2.8% and energy consumption by approximately 27.9%. Additionally, CO₂ emissions will be reduced by 20.6% and solid waste by 64%.

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
Raw materials and product recovery	€35,540	€21,400	1.7	29.2 tons Raw materials	-	Total: 124.1 tons CO ₂ 29.2 tons Solid waste
Heat conservation	€25,920	€23,990	1.1	-	425	
Lighting system	€ 2,670	€2,090	1.3	-	20	
Cooling system	€3,330	€2,810	1.2	-	26	
TOTAL	€67,460	€50,290	1.3	29.2 tons Raw materials	471 MWh	

¹ Numbers based on production value from 2015

Raw materials and product recovery

Solid waste, raw materials and product losses could be minimized by several good housekeeping measures such as changing/improving the products cutting methods and control of staff operations to reduce waste volumes. Additionally, this group of measures includes an investment to replace the dough cutter with a more efficient machine for consistent portioning of the dough and for establishing an onsite lab to test the frying ghee and determining when to dispose it.

Heat conservation

The consumption of fuel could be significantly reduced by improving the insulation of the sweet production lines to reduce the heat loss; additionally a heat exchanger is to be installed to recover waste heat from the flue gas for heating the cleaning water.

Lighting system

Inefficient fluorescent tube lamps and flood light MH fixtures have been replaced by efficient LED tube lamps and LED flood light fixtures to reduce electricity consumption.

Cooling system

The cold storage cooling units have low performance due to inadequate maintenance. Upgrading these units (well-insulating refrigerant coils, fixing condenser fans, cleaning condenser air filter, ventilating the suction and discharge air in the outdoor units, etc.) will reduce both their operating hours and energy consumption.

“Our objective is continuous improvement through implementing all the recommended saving options and identifying new ones, applying for ISO 14001, MFCA annual assessment and a systematic regular monitoring for waste produced. The MED TEST II project has increased our awareness in NPO costs and how to identify and reduce them. Energy audit had the largest impact for Habibah Sweets.”

Eng. Waleed Habibah,
Plant Manager

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