

MED TEST III Lebanon

Transfer of Environmentally Sound Technologies

Food and beverage sector *Mounir Bissat Factories*

Company overview

Number of employees:
26 Full-time employees

Key products:
Tahini, Halawa and Raha (Loukoum)

Main markets:
Local Market (35%), International (65%)

Standards & certifications before MED TEST III:
ISO 22005

Mounir Bissat Factories is a family owned business specializing in manufacturing Tahina and Halawa. Since its establishment in 1904, the company has expanded from simple operations to a factory producing in 2022 around 580 tons of various products. Mounir Bissat Factories strives to provide the best quality product to its customers, with food safety at the core of its practices while maintaining traditional methods for Arabic products. It is an export-oriented company, with more than 65% of its total production dedicated to export.

Benefits

The MED TEST III project identified total annual savings of €49,477* related to energy with an estimated investment of €61,660*. The average payback period is about 1.2 years. The top management accepted to implement the 3 identified measures. Of the approved measures, one is already under implementation.

The identified measures have the potential to reduce annual electricity consumption by 19%, thermal energy consumption by 31% for a combined rate of 29% of total energy consumption reduction, contributing to an annual reduction of Green House Gas emissions by 173 tons of CO₂-eq.

Identified annual savings



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As one of the leaders in Tahini and Halawa manufacturing in Lebanon and the Arab region, Mounir Bissat factories is striving to maintain an image of environmental stewardship. This is our main motivation to join MED TEST III project. Our company will also benefit from the technical know-how of the program for optimizing resource use and reducing production costs.

Mr. Mounir Bissat
Owner and General Manager, Mounir Bissat Factories

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As part of the EU-funded SwitchMed programme, UNIDO demonstrates in the MED TEST III project pathways for industries in the Southern Mediterranean to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

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Saving opportunities**

Actions	Economic key figures			Resource savings & Environmental impacts		
	Investment Euro*	Savings Euro* per year	Payback period years	Water & Materials per year	Energy MWh per year	Environmental impact per year
Thermal insulation of the steam network	6,085	12,659	0.5	-	170	Total: 173 tons CO ₂ -eq
Thermal insulation of the roasters	13,713	26,516	0.5	-	355	
Installing a PV system	41,863	10,302	4.1	-	37	
TOTAL	61,660	49,477	1.2	-	562	

* Using average exchange rate October 2022-October 2023 1 USD=1.072 Euro

**Numbers based on the production value 2022

Thermal insulation of the steam network

Undetected energy losses were identified during the energy audit. The steam boiler, support, accessory piping, steam pipes, valves and condensate tanks all require insulation. These measures would enable the company to save €12,659 per year at an investment cost of €6,085, resulting in a payback period of 6 months.

Thermal insulation of the roasters

Approximately 41% of the thermal energy used in the roasting process of sesame seeds is lost as convective and radiative heat because the sesame roasters are of the open trough type. To address this issue, a measure recommends to insulate all outer trough surfaces and install a flat-sliding double-layer aluminum cover without obstructing the evaporation to maintain quality of the sesame seeds. This measure will enable the company to save €26,516 per year at an investment cost of €13,713, resulting in a payback period of 6 months.

Installing a PV system

It is recommended to install a 54.5 kWp on-grid Photo Voltaic (PV) system without battery storage. The PV system is estimated to supply around 37 MWh of electricity per year representing around 19% of Mounir Bissat factory's annual electricity consumption. This measure will enable the company to achieve annual energy savings of €10,302 with a payback period of around 4 years.

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Our participation in the MED TEST III project will enable us to lower our production costs and improve the environmental performance of our company by implementing economically attractive energy efficiency measures and by adopting renewable energy technologies.

Mr. Mounir Bissat

Owner and General Manager, Mounir Bissat Factories

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