

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.

Palestine

Al Jebrini Group for Dairy and Food Industries Food and beverage sector

Context

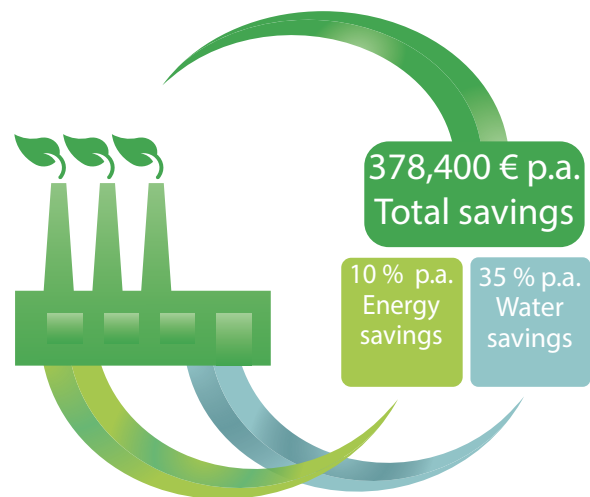
Number of employees:	310
Key products:	Yoghurt, Sour Cream, Sweet Yoghurt, Pudding - Chocolate and Vanilla, Fresh Milk - ESL, Flavoured Milk (Chocolate and Vanilla), Coffee, Milkshake, UHT Milk – Full Fat and Low Fat, Buttermilk, White Cheese, Yellow Cheese, Labneh, Nectar, Juice, and Jelly
Main markets:	Local, regional
Management standards:	PS standards

Al Jebrini is a leading Palestinian company operating in the manufacturing and agricultural sector. It owns several plants including dairy farms producing various types of products including Yogurt, Sour Cream, Sweet Yogurt, Boding - Chocolate and Vanilla, Fresh Milk - ESL, Flavoured Milk (Chocolate and Vanilla), Coffee Milkshake, UHT Milk – Full Fat and Low Fat, Buttermilk, White Cheese, Yellow Cheese, Labneh, Nectar, Juice, and Jelly.

“Our ambition for this project was to reduce our water and energy consumption. Good management practices and the use of new technologies will bring environmental and financial benefits.”

Jehad Al-Jebrini
General Manager

Benefits



Graphic: UNIDO

The MED TEST II project identified total annual savings of 378,400 euros in energy and water consumption with an estimated investment of 445,500 euros and an average payback period of 1.2 years. Out of 18 identified measures, approximately 80% were accepted by senior management, and most of them are already being implemented or are planned.

A set of good housekeeping measures and two major investments in pasteurizers and chillers will reduce energy consumption by 10%. A significant amount of water amounting to 35% of our total consumption will be saved by improving Cleaning-in-Place (CIP) operations, thus significantly improving the key performance indicator for the use of water per unit of production. The implementation of RECP together with employee training is providing the company with a roadmap for continuous improvement of water and energy use.

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
Good housekeeping (GHK)	5,000	10,190	0.5	-	127	962 t of CO ₂ 218,000 m ² of waste water
Energy efficient lighting	3,000	3,840	0.8	-	30	
Replacing burner in boiler for pasteurization	50,000	21,000	2.4	-	170	
Chiller	227,500	125,370	1.8	-	962	
Recovery of CIP water	160,000	218,000	0.7	230,000 m ³ water	-	
Total	445,500	378,400	1.2	230,000 m³ of water	1,289 MWh	

¹ Numbers based on production value from 2015

Good housekeeping (GHK) measures

Thirteen GHK measures were implemented, including preventive maintenance, cleaning, insulation of pipes or water feed tanks, switching off equipment not in use, or lowering pressure settings in the compressed air system. These measures will bring savings of more than 10,000 euros/year and a reduction of CO₂ emissions by 95 t/year.

Replacing a boiler burner for pasteurization

The company replaced a diesel burner for preparation of hot water for pasteurization with a more efficient dual burner using diesel and LPG. Total savings will be 21,000 euros/year, and CO₂ emissions will be reduced by 127 t/year.

Energy efficient lighting

Introduction of new and more efficient lighting will bring a 30% reduction in energy used for lighting, saving 21 t of CO₂ emissions per year.

Replacing the chiller

A new high energy efficiency chiller with has replaced the old model (increasing COP from 2 to 4). This modernisation will reduce energy consumption by 25% and will bring significant savings to amortize the initial investment within 2.5 years. CO₂ emissions will be reduced by 720 t/year.

Recovery of CIP water

Water used in CIP rinsing can be recovered and reused for pre-rinsing. This measure will yield a significant reduction of at least 230,000 m³/year by comparison with existing water use.

“Applying the TEST methodology in our company helped us to see our hidden costs and to move towards significant savings opportunities. We have applied most of the savings options to reduce energy and water losses”

Jehad Al-Jebrini
General Manager

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