

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.

Israel

Kafrit Industries Ltd.

Plastic sector

Context

Number of employees:	160
Key products:	Compounds & concentrates for the plastic industry
Main markets:	Export 60% & Domestic 40%
Management standards:	ISO14001, ISO9001

Kafrit Industries is located in kibbutz Kfar Aza in south Israel. The company produces plastic pellets as raw material for manufacturing of plastic goods. The company was established in 1993, employs 160 people and produce around 20,000 tons of pellets per year.

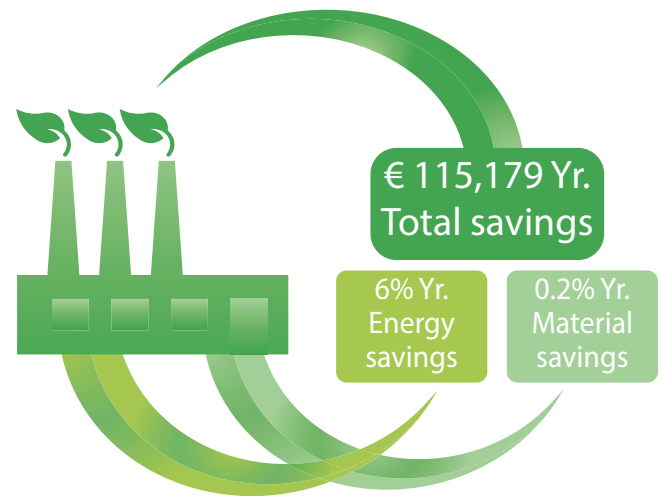
The company joined the MED TEST II project in order to improve its resource efficiency, primarily geared towards saving electricity and raw material.

The company is certified ISO 9001 and ISO 14001, and is part of Kafrit Groups with 4 international manufacturing sites.

“MED TEST II project showed us that while our raw material losses were very low in percentages, they still amounted to a lot of money which is literally lying around on the floor of the production line. We can save costs by introducing the simple measures of raising employee awareness, changing working procedures, training and monitoring”.

Ran Shivek – Operations manager,
Kafrit Industries Ltd.

Benefits



Graphic: UNIDO

The actions identified through the MED TEST II project will enable the company to save 115,179 euros annually in its purchases of energy and raw materials, with an average pay-back period of 2.2 years. Nearly 68% of the measures that were suggested as a result of the project were accepted by top management. These included an overall update of the manufacturing line with the goal of reducing the raw material waste.

The potential savings on the optimization of electrical systems represent a cost reduction of 6% on the annual energy bill. The most significant portion of these savings is due to the planned installation of a monitoring system for the major energy consumers.

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
Efficient electric motors, extruders and lighting	€36,750	€11,287	3.2	-	98	CO2 416 tons Waste 37.5 tons
Energy monitoring system	€36,750	€58,112	0.6	-	505	
Minimization of raw material losses in the warehouse	€5,250	€5,250	1	4 tons raw material	-	
Polymers and additives productivity	€174,825	€40,530	4.3	33.5 tons raw material	-	
TOTAL	€253,575	€115,179	2.2	37.5 tons raw material	603 MWh	

¹ Numbers based on production value from 2014

Efficient electric motors, extruders and lighting

This measure targets reduction of key energy consumers profiles. The extruders in the plants will be more efficiently insulated and dampers will be installed at the extruders to operate the cooling system only for the working extruders. In addition, the lighting system will be upgraded to a more efficient system. Lastly, frequency regulators will be installed at the large motors of the venting system.

Energy monitoring system

The plant will introduce energy monitoring devices and gauges for the main electricity consumers. This will result in 505 MWh savings a year. Additionally, the plant will shut off equipment that is running idle during weekend operations.

Minimization of raw material losses in the warehouse

The plant has significant raw material losses in the warehouse. This measure includes protecting the edges of the wooden pallets with iron shields to avoid damage to the material bags, adding protective sponge to the forklift, adding spacer on the vertical boom of the forklift and training for production department forklift operators. These solutions will save up to 4 tons of raw material annually.

“Due to the high cost saving potential of reducing material losses we have initiated an elaborate investment program throughout the plant including automation of production lines with the main objective of reducing material losses”

Ran Shivek – Operations manager,
Kafrit Industries Ltd.

Polymers and additives productivity:

This measure includes improved working procedures and technologies for handling the silo. Automation of unloading the material from bags, inspections and trainings for employees on minimizing the residue in the material bags and replacement of the feeding receptacles and the adding of tarp borders to the silo. In addition, the feeders in the additives department will be better maintained with the inclusion of improved procedures, installing an improved funnel and adding connecting sleeves between big-bag and funnels. Lastly, the use of new bags for the repacking of raw material will prevent spillage during material transport.

For more information, contact:



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