



MALCO Group

Experience with the MED TEST II Project

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Introduction of Malco Group



- **MALCO GROUP** is a Multifood industry that was established in 1993 by Mr. Mohammad El Koussa.
- The facility is located in ShouEIFat | Old Saida road.
- Production is divided into two companies: *Fantasia* and *Pain d'Or*
- Key Products
 - PAIN D'OR: Arabic bread, pastries, French bread, specialty bread, cakes, chocolate, ice cream.
 - FANTASIA : Natural potato, Tortilla, pellets and extruded corn chips
- No. employees (in production): 487

Motivation to participate in the project

- The interest to save resources and reduce production costs.

- For instance, in 2016
 - ▣ The energy bill exceeded 2 Million USD
 - ▣ CO₂ emissions exceeded 8,600 tonnes
 - ▣ Water demand exceeded 90,000 m³/year

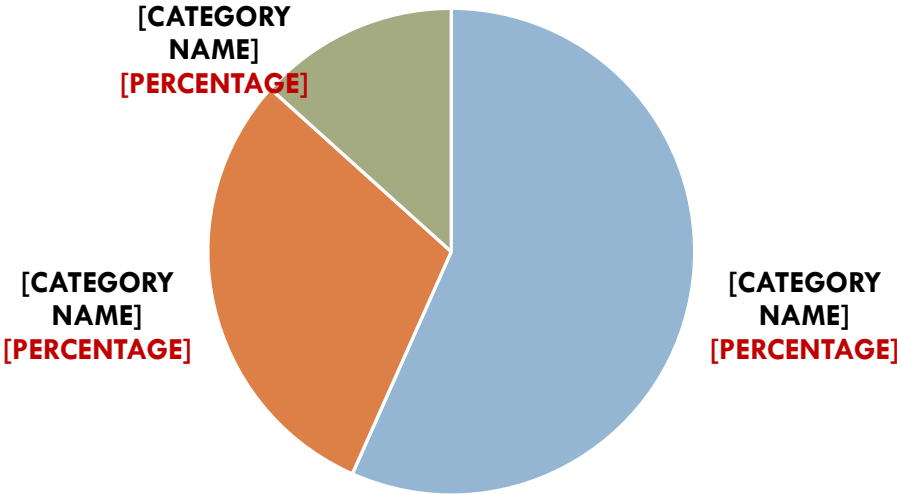
Main results of the MED TEST II Project

- The project disclosed a high potential for saving resources
 - **Total annual economic savings:** 1.24 Million Euros/Year
 - **Total annual water savings:** 19,000 m³/year, equivalent to 21% of total water usage
 - **Total annual Energy savings in % compared to yearly consumption:** 4,600 MWh of primary energy equivalent to 12% of primary energy demand at MALCO
 - **Total annual Raw Material savings in % compared to yearly consumption:** 515 Tonnes, equivalent to 3% of total material use

Pay back period of the resource efficiency measures and investments

Majority of interventions (57%) have payd back period <6 months

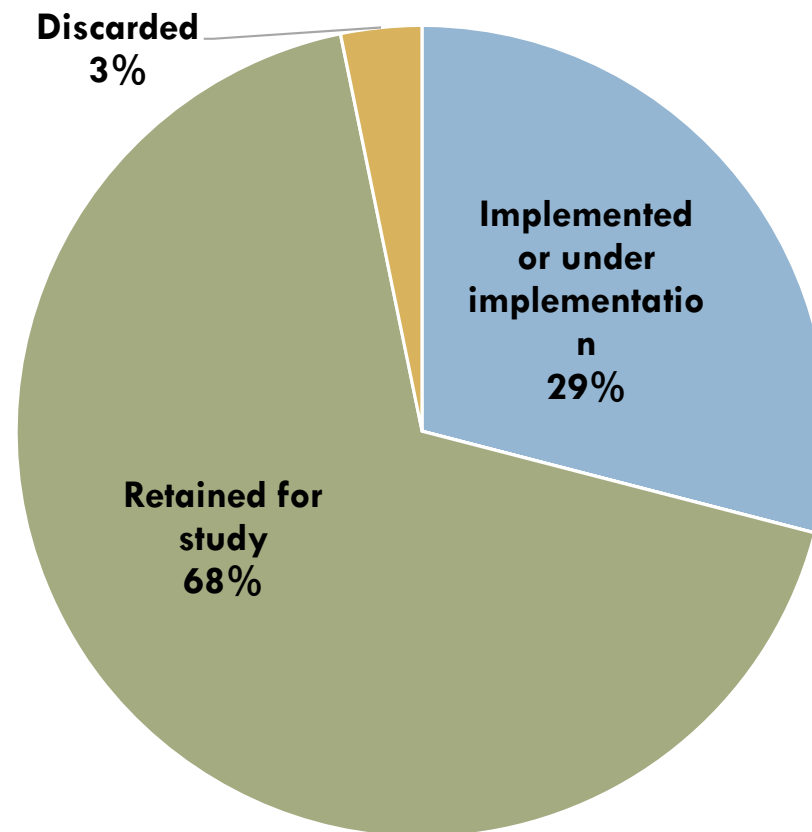
Savings: 1.24 Million Euro/Year
Investments: 0.61 Million Euros



Key resource saving opportunities

Action	Resource	Investment (€)	Savings (€/Yr)	PBP Years	Water and Raw Materials (M ³ /Tons per Yr)	Energy Mwh	Environmental Impacts (Tonnes CO2)
Adopt a special software for market responsive production	Materials	45,000€	856,000€	0.05 Yr	Water: 515 Raw material : 515	350	175
Re-use discharged water from blanching for potato rinsing	Water	7,000€	93,000€	0.07 Yr	Water: 9,300	6	6
Adjust air fuel mix of Arabic bread burners	Energy	0€	10,000€	0 Yr	NA	259	63
Heat recovery for Arabic bread tunnel ovens	Energy	69,000	38,000€	1.8 Yr	NA	1,036	253
Renew all generators	Energy	400,000€	98,000€	4.1 Yr	NA	1,859	454
TOTAL	All	521,000€	1,095,000€	0.5 Yr.	9,815 M³ and 515 Tons	3,504	951

Implementation progress so far



Other impacts of MED TEST II Project

- Increased awareness and knowledge among staff concerning resources use efficiency
- Company is now better able to monitoring its resources through the information system installed at the beginning of the project
- Amendment of company policy to reflect commitment to resource saving

Future plans *implement resource efficiency measures in the future*

- Implementing most of the interventions we have already adopted as an outcome to this project
- Strengthening the environmental awareness culture in the company by aiming for an ISO 14001 certification and possibly an ISO 50001 as well by the next 3 years.