

RECP Best Practice Catalogue

Covering the mechanical cooling units
Developed within the framework of MED TEST II
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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is
funded by the European Union

Best practice – Covering the mechanical cooling units

SECTOR: **Food & Beverage**

SUBSECTOR: Processing and preserving of fruit and vegetables

PRODUCTS Palm Dates Products

CATEGORY Process control or modification

APPLICABILITY Utilities

COMPANY NAME ---

COMPANY SIZE 71 full-time workers and some 200 part-timers seasonally

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Description of the problem (Base scenario):

The company is processing palm dates (mainly Madjoul) of five different marketable sizes. The company is served by several chillers that are located outside the production building. These chillers were installed in uncovered areas where they suffered from high temperature, direct exposure to sunlight and dusty environment. This led to lowered efficiency, repeated failure of the mechanical parts due to the increased load and the deterioration of the evaporator fins.

Description of the solution

Installing roof cover for chiller units at the new storing facility for protection against the weather conditions in Jericho. This will positively affect performance of the cooling system, increase energy efficiency and reduce mechanical failures.

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Economic Benefits	Operational Savings: Reduction of energy consumption in chilling process by 61,320kwh/y which represents 5% of energy consumption
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TOTAL Saving: 7,000 EUR/y

Environmental Benefits	<ul style="list-style-type: none">• Decrease of energy consumption by 5% (61,320kwh/y)• Reduction of the CO₂ emissions by 45 ton/y
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Health and safety impact	N.A
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Capital investments & financial indicators	8,400 Euro Capital investment 1.2 year Payback period
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Suppliers

Local Suppliers

Other aspects

There is an additional not quantified saving potential in reduction of failures in operation of the chillers and in reduction of maintenance time.

Situation before and after implementation of this measure is illustrated by pictures:



← BEFORE

AFTER →



Implementation

After implementation of this measure the cooling efficiency is better than before, also the maintenance and cleaning program was reduced as the equipment became better isolated from the surrounding adverse environmental conditions.