

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-Zara'oun

Food and beverage sector

Context

Number of employees: 15 fulltime and 50 seasonal

Key products: Palm dates, mainly Medjool

Main markets: Local and international

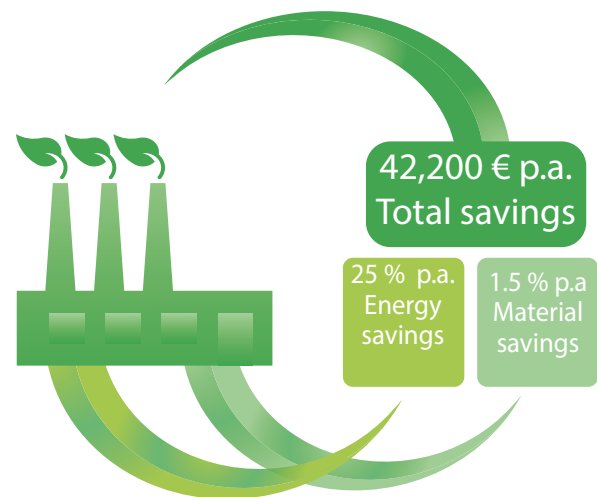
Management standards: Global GAP and FSSC

Al-Zara'oun was established as an agro-industrial company in Jericho to produce Medjool palm dates of different sizes as a main crop. The company cultivates palm trees on leased land and currently produces around 400 t of dates per year, 50% for the local market and 50% for the regional and global markets. Although the company is relatively new in the market, it has invested in its facilities by acquiring four new refrigeration units each with a capacity of more than 400 t (which gives a capacity of some 1,000 t).

“Al-Zara'oun participated in MED-TEST II because the RECP concept has already been implemented in several industrial sectors worldwide and has proven to be a comprehensive approach that may improve company performance while saving resources and protecting the environment”.

Tareq Al Qawasmi
General Manager

Benefits



Graphic: UNIDO

The MED TEST II project identified a total annual savings of 42,200 euros on energy costs with an estimated investment of 42,000 euros and an average payback period of one year. The company has already implemented a considerable number of the measures identified. In addition to financial savings, these measures will reduce CO₂ emissions by 163 t/year. The company is planning to move to newly designed facilities and intends to apply the capacities developed and the experience gained in the MED TEST II project in operating the new plant.

Senior management was extremely interested in participating in the MED TEST II project. One of the priorities for management was training of company staff on RECP tools as a basis for continuous improvement in this area. As the company is located in the protected Jordan Rift Area which is highly sensitive to any potential pollution, senior management is also aware of the opportunity that RECP provides for preserving the environment and the unique ecosystem that delivers its raw materials

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 |
| Energy efficiency of the cooling system | 5,100 | 16,850 | 0.3 | - | 141.5 | 163 t of CO ₂ |
| Lighting | 7,800 | 5,000 | 1.6 | - | 42 | |
| Increasing efficiency of HVAC | 4,050 | 4,250 | 1 | - | 25.8 | |
| Optimized product sterilisation | 25,000 | 16,100 | 1.6 | 5 t of raw materials | - | |
| TOTAL | 42,000 | 42,200 | 1 | 5 t of raw materials | 210 MWh | |

¹ Numbers based on production value from 2016

Energy efficiency of cold storage and chillers

Several affordable energy efficiency measures were implemented. The efficiency of the defrosting process was increased by installing thermal heaters in the condensing reservoir tank. This measure reduced emissions of CO₂ by 51 t/year. The renovation of door seals and other measures preventing infiltration of hot air into the refrigeration rooms, together with proper insulation of the refrigeration system, is yielding additional savings and reducing CO₂ emissions by 61 t/year.

Improved lighting

Old inefficient lighting was replaced by LED lighting, and a light dimming control system with occupancy sensors was installed to further reduce energy consumed by lighting. These measures are reducing costs and CO₂ emissions by 31 t/year.

Increasing efficiency of HVAC

The company is operating in the very hot climate of the Jordan River Valley, and its external cooling units are directly exposed to the sun. Building roof coverage for the external mechanical and electrical parts of the cooling units will yield energy savings and reduce CO₂ emissions by 27 t/year and maintenance costs.

Optimized product sterilization

The company has already built the sterilisation room that will be equipped with a cooling unit for sterilisation and refrigerated storage. This room is designed to reduce product moisture losses from 2% to 0.5%, thus achieving optimal quality. Keeping the dates in the new sterilisation rooms will achieve a reduction in loss of weight, saving approximately 5 t/year of products and thus 16,100 euros/year.

“Most of the recommended measures in the framework of the TEST project were perceived to be easy to implement while yielding considerable savings. But above all, we have learned that achieving significant savings requires that employees understand the value of the RECP approach. The company implemented most of the recommended measures, and current savings are substantial.”

Tareq Al Qawasmi
General Manager

For more information, contact:



United Nations Industrial Development Organization
Department of Environment
Vienna International Centre, P.O. Box 300
1400 Vienna, Austria
Telephone: +43-1 26026-0, Fax: +43-1 26926-69
E-mail: c.gonzalez-mueller@unido.org
Web: www.unido.org



Palestine Academy for Science and Technology (PALAST)
Jerusalem Ramallah Road
Ramallah, Palestine
Tel: +9722 2960524/6 Fax: +9722 2960525
E-mail: ikhatib@palestineacademy.org
Web: www.palestineacademy.org