



**TOGETHER**  
*for a sustainable future*

## OCCASION

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## RECP Experiences at [Quality Food Co. Ltd]

The efficient and environmentally sound use of materials, energy and water - coupled with the minimization of waste and emissions - makes good business sense. Resource Efficient and Cleaner Production (RECP) is a way to achieve this in a holistic and systematic manner. RECP covers the application of preventive management strategies that increase the productive use of natural resources, minimize generation of waste and emissions, and foster safe and responsible production. Benefits are eminent in many enterprises, regardless of sector, location or size, as demonstrated by the experiences of Quality Food Co. Ltd Jordan.

### Achievements at a Glance

Resource Efficient and Cleaner Production (RECP) implementation in the Quality Food Co. Ltd Industrial Company led to annual savings of USD 30'000, and improved product quality.

The audit focal areas are energy and water flows with special focus on: cleaning processes, sterilization, pasteurization, water ring vacuum pumps and the refrigeration system.

In summary the focal areas were selected due to the following reasons:

#### 1. Cleaning processes

The cleaning process is one of the major activities that almost done in a daily manner. It is one of the most water consuming activities as shown clear in the company records, so it is an appropriate area to reduce water consumption.

#### 2. Sterilization

In spite of the 60% recycling of the cold water used in this process, this area still consumes a large amount of water, so there is an opportunity to save more water. Also there is a room to reduce energy consumption in this area, since significant amounts of diesel (for steam generation) and electricity (for cooling) are consumed to produce the needed hot and cold water.

#### 3. Pasteurization

There is a significant consumption of water in the cooling process which is done by semi-soft water (TDS 60 mg/l) showers and since there is no recycling of this water, there is a possibility for water recycling.

#### 4. Water ring vacuum pumps

The water used in these vacuum pumps is disposed daily without recycling and also these pumps consume a lot of energy, especially the vacuum pumps of the cans filling and seaming machines which are running full time (installed capacity of 18.5 kW/each pump of two). So this area has possibilities to save water and energy.

#### 5. Refrigeration system

A large amount of energy (electricity) is consumed for cooling the storages of raw materials and end products (including the freezers), production hall, trolleys room, receiving room and tempering room, etc. It is therefore important to save energy in this area. This can be done through in-depth study of required temperatures, sizes of the necessary cooling areas, temperature controls, maintenance and the possibility of heat recovery (e.g. from NH3 compressors).



## Overview

Quality Food Co. Ltd, a member of the Nuqul Group, was established in 1995 for production of processed canned luncheon meat product under the famous brand name "UNIUM" which previously was produced in Holland by UNILEVER Co. and distributed since the late 50s in Jordan by Nuqul Bros. another subsidiary company of the Nuqul Group. The factory trials started late 1996, and started production in January 1997 and since then continual expanding and improvements covered production processes and trading of canned luncheon meat; therefore today Quality Food Co. Ltd, produces diversified range of processed meat products in canned, chilled and frozen forms.

Quality Food Co. Ltd, aims to fulfill customer satisfaction by ensuring the highest quality products and ongoing improvement. A concern and responsibility for company's products quality, wholesome and safety has been foremost in all aspects of the production and till the customer. All meat products are produced with high quality ingredients and through strict adherence to Good Manufacturing Practice (GMP). The company adopts Food Safety, Quality, Jordanian Quality Mark and Environmental systems to get the utmost benefits could be obtained from each system to achieve its objectives. It got ISO 9001 since 2001, ISO 14001 since 2001, ISO 22000 since 2005, HACCP since 1999, Quality Mark since 1999 and efsis "setting standards" since 1999

## Benefits

Quality food Company implemented most of the feasible generated options. For example, the company Fixed water leakages, Fiting Guns to unfitted hose pipes, Apply the cleaning system for small cans (empty and filled) by change the location of the installed system for large cans, Check damaged packaging materials when delivered and discuss with supplier.

## Resource Efficient and Cleaner Production (RECP)

**Resource Efficient and Cleaner Production (RECP)** entails the continuous application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment.

RECP addresses three sustainability dimensions individually and synergistically:

*- Production efficiency*

> Through improved productive use of natural resources by enterprises

*- Environmental management*

> Through minimization of the impact on nature by enterprises

*Human development*

> Through reduction of risks to people and communities from enterprises and supporting their development



## Success Areas

The results were achieved through the implementation of the following measures:

- Reduce water consumption and wastewater by connecting the shower drain to the water recycle project
- Reduce energy consumption by replacing the use of compressed air for cans drying by a blower
- Reduce electricity consumption by inserting electronic ballast for fluorescent lamps
- Use a steam heat exchanger instead of direct steam injection to reduce diesel, water and chemicals consumptions

Principal Options Implemented	Benefits		
	Economic		Resource Use
	Investment [USD]	Cost Saving [USD/yr]	Reductions in energy use, water use and/or materials use (per annum)
Heat recovery from NH3 refrigeration system by installing a new plate heat exchanger between the compressed ammonia hot gas and water to be used for cleaning and employees shower	25'471	22'800	56'600 liter of diesel
Apply the cleaning system for small cans The installed large cans cleaning system is modified and its location is changed to clean small cans also.	7'714	2'142	1'670 m <sup>3</sup> of water 8'750 liter of diesel 310 liter of chemicals
Use variable speed drivers for water ring vacuum pumps of HEMAS 1&2 to prevent vacuum losses and reduce electricity consumption	2'228	5'242	39'030 kWh

## Approach taken

The CP program comprised capacity building and in-plant application in a modular form in addition to experts mission. A joint team from RSS CP Unit and the Company worked cooperatively to implement CP assessment for the company.



# RECP Experiences



The work included detailed company visits, identifying and evaluating CP options, implementing a number of options and setting an action plan for the follow up of CP at the company.

Applying cleaner production principles that result in the best utilization of available resources and the production of products in an environmentally friendly manner, this reflects the determination of our team members in complying with company's mission of protecting the environment and serving the local community.

## Business case

RECP not only allows companies to achieve savings from decreased resource use, but also decreases pollution to the environment, which benefits the surrounding community.

<b>Testimony Box</b>
<b>National Cleaner Production Centre (NCPC)</b>
The CP-Unit of RSS was established in February 2004 with the support of the Swiss State Secretariat for Economic Affairs (SECO). CP-Unit is well recognized among the Arab world in CP services. During the past 10 years, the CP-Unit has gained recognition through its comprehensive and diverse record of achievements
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## ABOUT RECP EXPERIENCES

Through the joint Resource Efficient and Cleaner Production (RECP) Programme, the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Programme (UNEP) cooperate to improve the resource productivity and environmental performance of businesses and other organizations in developing and transition countries. The Programme is implemented in partnership with the Global Network for Resource Efficient and Cleaner Production (RECPnet). This series of enterprise success stories documents the resource productivity, environmental and other benefits achieved by enterprises in developing and transition countries through the implementation of RECP methods and practices.

These successes were achieved with the assistance of the National Cleaner Production Centres, which are part of RECPnet established with support of the UNIDO and UNEP. The success stories employ the indicator set described in *Enterprise Level Indicators for Resource Productivity and Pollution Intensity*, UNIDO/UNEP, 2010. The primer with accompanying calculator tool and further case studies are available at [www.recenet.org](http://www.recenet.org), as well as on [www.unido.org/cp](http://www.unido.org/cp) and [www.unep.fr/scp/cp](http://www.unep.fr/scp/cp).