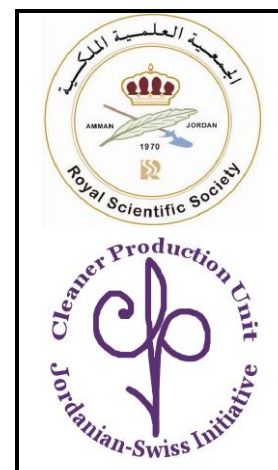


Cleaner Production in Jordan

Fact Sheet: Quality Food Co. Ltd.

Amman, Jordan



What is Cleaner Production?

Cleaner Production (CP) is the continuous application of an integrated, preventive strategy to processes, products and services to increase efficiency and reduce risks to humans and the environment.

In this fact-sheet the results achieved from the CP In-plant Assessment in Quality Food Co. Ltd. are summarized. The information shall serve to demonstrate how CP can be implemented in industries in Jordan.

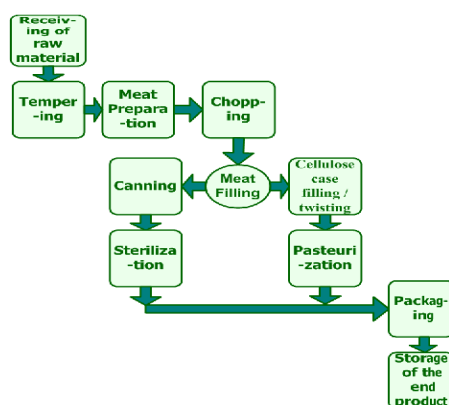
General Information



Production Line

Company	Quality Food Co. Ltd., Amman, Jordan.
Sector	Food Industry & Trading.
Products	Diversified range of processed meat products; canned, chilled and frozen forms, such as: Canned Luncheon meat, Chilled Mortadella, Canned Sausages, Chilled Salami, Frozen Frankfurter and Roasts.
Market	70 % local market, 30 % export to Egypt, Lebanon, Qatar, Kuwait, Oman, K.S.A, U.A.E, Bahrain, Algeria, Syria, Palestine, Iraq, Yemen, Ghana, Seralion, Gabon, Genie, Russia, Pakistan and Senegal.
Employees	134 employees (12 administration, 30 production, 13 maintenance, 2 laboratory, 4 QC, 1 QA, 3 HR, 61 Sales & 8 Accountants)
Management Systems	ISO 9001 since 2001, ISO 14001 since 2001, ISO 22000 since 2005, HACCP since 1999, Jordanian Quality Mark since 1999 and EFSIS "setting standards" since 1999.

Production



Processes	Meat Tempering, Meat Preparation, Chopping, Meat Filling (Canning or Filling in Cellulose Casing), Sterilization or Pasteurization, Packaging and Storage of the end Product.
Raw Materials	Frozen Meat (Beef & Chicken), Salt, Potato Starch, Sodium Nitrite, Soya Protein, Spices, Cans, Cellulose Casings, PE Films & Cartons.
Energy Sources	Electricity and diesel.
Wastes and Emissions	High BOD and FOG wastewater, combustion gases, packaging solid waste and meat waste.

CP program

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

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.

Company Statement

In the line with Quality Food Company's environmental policy, we at Quality Food are determined on 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.

General Manager: Khaldoun Zawaideh

Results

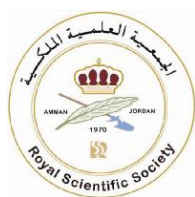
Many options have been identified. Some of these options have already been implemented. An example is applying the cleaning system for small cans by changing the location of the installed system for large cans, which can reduce the hot cooking water drain frequency by 50% and the cooling water drain by 70%.

The company is going to improve waste heat recovery from refrigeration system; to enhance energy saving and reduce combustion gases emission.

Some results obtained are described in the table below:

Option	Environmental benefits	Economic savings		
	Water, materials or energy consumption reduction [Unit/yr]	Savings [JD/yr]	Investment [JD]	Payback [years]
Option 1 – 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.	56'600 liter of diesel	17'830	15'960	0.9
Option 2 –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.	1'670 m ³ of water 8'750 liter of diesel 310 liter of chemicals	5'400	1'500	0.3
Option 3 – Install fluorescent lamps	16'970 kWh	680	420	0.6
Option 4 – Shading the storage tanks of cooling water recycle system to prevent the solar radiation	10'850 kWh	430	800	1.8
Option 5 – Use variable speed drivers for water ring vacuum pumps of HEMAS 1&2 to prevent vacuum losses and reduce electricity consumption	39'030 kWh	1'560	3'670	2.3

Contacts & Partners



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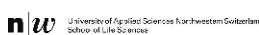
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