

# Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in operation, Goldentex Company has joined hands with the GEF funded project, "Industrial Energy Efficiency in Egypt". This project is implemented by the UNIDO in partnership with the Egyptian Environmental Affairs Agency, Ministry of Industry, Trade and SMEs and the Federation of Egyptian Industries. The project has helped Goldentex to implement Energy Management System in alignment with ISO 50001 for an overall improvement in energy efficiency and improve environmental impact.

## EGYPT

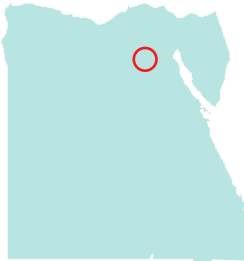
### A Case Study of Goldentex Company

#### Goldentex Company EnMS Snapshot

**Industry:** textile

Industries

**Location:** 10<sup>th</sup> of  
Ramadan City,  
Egypt



**Product:** textile

**Implementation cost:** ~ 0.140 MEGP

**EnMS Scope:** electricity, natural gas

**Annual Energy savings:** ~ 487 MWh

**Financial savings:** ~ 0.270 MEGP

**GHG reduction:** ~ 301 tons CO<sub>2</sub>eq

**Overall payback:** ~ 1 year

**Project Status:** at implementation  
phase

**Objectives period:** 2 years

**Time to implement EnMS:** : one year  
(2016)

**Goldentex Company**, established in 1982 as a member Alarafa Group, produces all worsted fabrics with 100% wool or wool with other blend fibers such as cashmere, silk, linen, cotton, nylon, viscose and polyester. The company exports to world class names in fashion in Europe and Unites States.

Goldentex is certified in ISO 9001/14001/ 18001 management systems.



#### Implementing EnMS in Goldentex is the way out

As the company follows market driven strategy and as the important markets are in Europe, the company is adopting environment friendly techniques and policies to be able to compete with international textile manufacturers. Adopting EnMS and getting the system certified according to 50001 will be a proof of following sustainable development strategies and will certainly help the company to maintain its markets and open new markets.

Additionally the EnMS will help the company to maintain its competitive position as it optimizes the use of the energy to make up for the energy price increase. Furthermore, Implementing EnMS will enable the company to continually apply energy efficient processes and operations.

#### Goldentex ambitious EnMS objectives

As energy doesn't represent a high percentage in the total cost of the final product, the company depends mostly on no /low cost opportunities to reduce its energy cost (energy represents 6-8 % of total cost). The company planed its objectives and targets as follow:

- Reduce its electricity consumption by 5% within 2 years starting from the second half of 2016
- Reduce its gas consumption by 2% within 2 years starting from the second half of 2016

## UNIDO, a key player in Goldentex success

With UNIDO support through the delegated consultants, implementing the EnMS had added benefits to the company such as:

- The training provided by UNIDO has led to better appreciation of the EnMS process.
- The cost of energy consumption is now reviewed regularly as part of variable cost.
- The energy team that was formulated.
- Definition of the opportunity
- Participation of all levels in the company with their suggestions for energy performance

improvement.

- Energy performance indicators are now used instead of the absolute annual energy consumption.

Additionally, raising awareness and training at all levels of employees in the factory on energy efficiency and its environmental impacts will lead to sustainable energy management in the company and will also disseminate the culture of efficiency between employees in their private life.

## Energy Saving Opportunities

| Implemented/ In-progress Saving Opportunities |  |                   |                 |              |                 |              |
|---|--|-------------------|-----------------|--------------|-----------------|--------------|
| S   | Implemented/ In-progress Energy Saving Opportunities | Elect Savings MWh | Fuel Saving MWh | Savings MEGP | Investment MEGP | Payback Year |
| 1   | Maintenance of air conditioning units                | 14.25             | -               | 0.007        | 0               | -            |
|   | Repair leakage the compressed air system             | 36.00             | -               | 0.018        | 0               | -            |
|   | Switching off lights during shift change             | 4.50              | -               | 0.002        | 0               | -            |
| 2   | Maintenance and cleaning of machines filter          | 320.00            | -               | 0.160        | 0               | -            |
| <b>Total</b>                                  |  | <b>374.75</b>     | <b>-</b>        | <b>0.187</b> | <b>0</b>        |              |

| Planned Saving Opportunities |  |                   |                 |              |                 |              |
|------------------------------|--|-------------------|-----------------|--------------|-----------------|--------------|
| S                            | Planned Energy Saving Opportunities                  | Elect Savings MWh | Fuel Saving MWh | Savings MEGP | Investment MEGP | Payback Year |
| 1                            | Installation of LED instead of metal halide lighting | 7.2               | -               | 0.040        | 0.014           | 1.00         |
| 2                            | Regularly tune up of boilers once per month          | -                 | 105             | 0.045        | 0.010           | 0.25         |
| <b>Total</b>                 |  | <b>7.2</b>        | <b>105</b>      | <b>0.085</b> | <b>0.024</b>    |              |

## Barriers

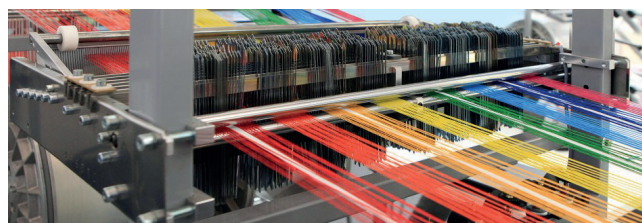
During the implementation of energy management system at Goldentex, several barriers have been faced in each phase of implementation:

- During the commitment phase; energy team members were reluctant to take up new responsibilities related to EnMS; accordingly, members have been changed several times.
- During the planning phase, the company didn't have any history regarding energy consumption in the previous years.
- Lack of meters in production departments; as the company relies on total energy bills. When the company decided to install meters, it wasn't that much easy to install a separate meter for each SEU or department due to the interference between processes installed panels.



## Lessons Learned

Implementation of EnMS at Goldentex has proved that EnMS could add benefits to the industries even if the energy cost share in the final product cost is not significant. Goldentex has also applied new ideas like partial switching of lights during the changeover of operation shifts.



### For more information:

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