

Industrial Energy Efficiency Project

Islamic Republic of Iran

Zabol Cement Co. has joined hands with the United Nations Industrial Development Organization (UNIDO) and Iranian Fuel Conservation Company (IFCO) to implement a structured approach to energy management in their operations, under the Global Environment Facility (GEF) funded project, "Industrial Energy Efficiency in Key Sectors".

Through this cooperation, the Zabol Cement Co. has already achieved significant savings through the implementation of an Energy Management System (EnMS) in alignment with ISO 50001:2011.

A Case Study of Zabol Cement Company

EnMS background in Zabol Cement Co.

Zabol cement co. is implemented integrated management system (IMS) and certified in accordance to ISO series.

The company also plans to implement EnMS according to ISO 50001:2011 in cooperation with UNIDO and up to now they have reached a positive gain during implementation of EnMS.

UNIDO program and development of the methodology within Zabol Cement Co.

UNIDO's developed methodology within the company consists of the below steps:

- Management commitment
- Planning
- Implementing
- Checking



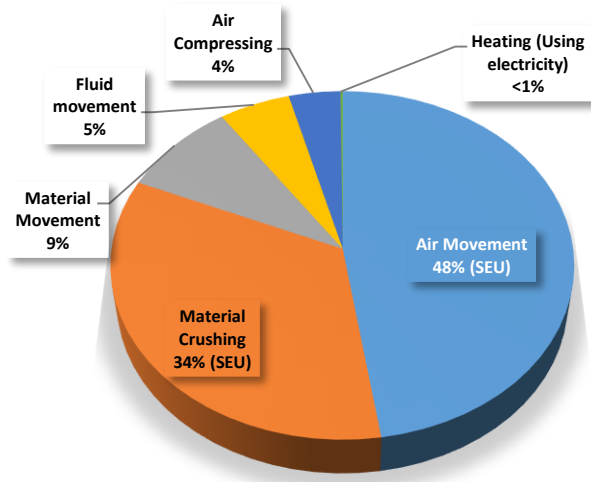
Zabol cement Industrial company was founded in 2003. The company was established with vision of production of clinker and different types of Portland and Pozzolana cement by the up-to-date machineries both in production and quality control in order to increase customer satisfaction and enhance company's value to its customers, employees and shareholders.

This plant was constructed and entered into industrial market of the country with philosophy of decreasing deprivation of people of region by job creation, use natural, mineral and human resources of province in order to produce and meet regional demand of cement as well as provision of pathway to export to the countries located to the east and South of Iran.

The factory capacity is 3300 ton per day and the target market is not only domestic market, but also export markets in Afghanistan.

Identification of significant energy users (SEUs)

The SEUs have been selected initially based on more than 80 percent of all energy users, which are illustrated in the below pie chart.



Main achievements

During implementation of EnMS within Zabol cement co., some activities that have added particular benefits to the company are as followings:

- Increasing the level of understanding about EnMS in energy management team;
- Better participation of company's staff in implementation of improvement projects;
- More communications between company's staff and energy manager;
- Increasing of the capacity of cement mills;
- Reducing production interruptions;
- Reducing defects and maintenance costs;
- Reducing the number of annual major maintenance;
- Improving production quality;
- Personnel paying more attention over energy aspects;
- Reducing specific energy consumption by implementation of energy conservation opportunities.

Planned energy saving objectives and targets for SCC

The overview of energy saving objectives and targets can be divided as follows:

Planned objectives:

- Base year: 2014, indicator: electrical SEC for whole plant: 90.15 (kWh/ton)
- Target year: 2015, indicator: electrical SEC for whole plant: 89 (kWh/ton)

Planned targets:

Considering specific energy consumption (SEC) for electrical energy as one of the energy measures, they have defined the below targets for SEUs (base year: 2014, target year: 2015):

- **Crusher:**
Base year: 1.13 (kWh/ton);
Target year: 1.12 (kWh/ton);
- **Ball mill**
Base year: 17.45 (kWh/ton);
Target year: 17.3 (kWh/ton);
- **Rotary kiln**
Base year: 26.69 (kWh/ton);
Target year: 25.8 (kWh/ton);
- **Cement mill 1:**
Base year: 34.1 (kWh/ton);
Target year: 32.5 (kWh/ton);
- **Cement mill 2:**
Base year: 31.01 (kWh/ton);
Target year: 30 (kWh/ton).

For more information

UNIDO Project Management Unit in Iran:

E-mail: m.shakouri@unido.org

n.shehari@unido.org

Phone: +98 21 22 79 37 00

UNIDO Headquarters:

E-mail: r.ghoneim@unido.org

Phone: +43 1 260 26 3456