

# Industrial Energy Efficiency Project

## Islamic Republic of Iran

Oxin Steel 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, Oxin Steel 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 Oxin Steel Company

#### EnMS background in Oxin Steel Co.

Oxin steel co. is implemented integrated management system (IMS) and certified in accordance with 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. Before joining to UNIDO's energy management program, they were working on energy issues based on traditional approaches. However, transferring the EnMS methodology within the plant, direct them to the systematic workflow. Moreover, EnMS has led to improved communication both internally and externally.

#### UNIDO program and development of the methodology within Oxin Steel Co.

UNIDO's developed methodology within the company encompasses the following steps:

- Management commitment
- Planning
- Implementing
- Checking



Oxin Steel Company is located in the south west of Iran and has started its production since 2010 for producing wide plates. The factory was built with the total area of 160 hectares and 10 salons of about 100,000 square meters.

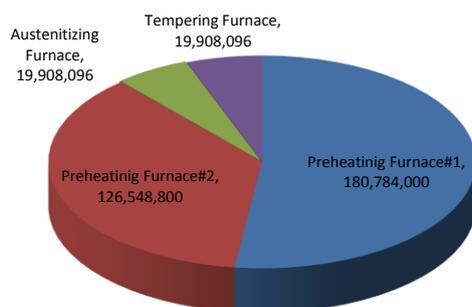
The nominal annual production rate of the wide plate mill is 1,050,000 tonne per year of hot rolled plates, according to the reference product mix.



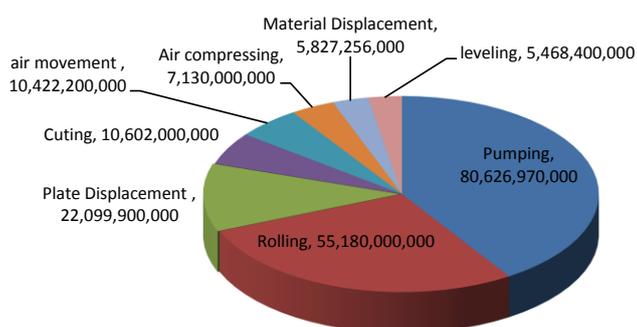
## Identification of significant energy users (SEUs)

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

### Thermal energy



### Electrical energy



## Main achievements

During implementation of EnMS within Oxin Steel Company some activities that have added particular benefits to the company are as followings:

- Increasing the level of understanding about EnMS for energy team;
- Promoting the participation of staff in implementation of improvement projects;
- Highlighting the importance of energy conservation in all levels of company;
- Developing communication lines between different departments and energy manager;
- Focusing on energy consumption and following up the EnMS projects by top management.

## Planned energy saving objectives, targets and action plans

The overview of energy saving objectives, its related targets and action plans can be divided as follow:

### ➤ Reducing 3% electricity consumption compared to the base year (2013):

- Reducing 0.8% of electricity consumption by raising furnace temperature over 30 °C;
- Reducing 0.3% of electricity consumption by controlling set point of water temperature of cooling tower at 35 °C;
- Reducing 1.9% of electricity consumption by installing a new VSD equipped compressor.

### ➤ Reducing 1.4% natural gas consumption in comparison with the base year (2013):

- Reducing 1% of natural gas consumption by setting heating time of pre-heat furnace based on design references;
- Reducing 0.4% of natural gas consumption by regular maintenance and operational actions (control of insulation, checking the burners, analyzing the exhaust flow, etc.).

### For more information

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