

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 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 Oxin Steel Co.

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

- Management commitment
- Planning
- Implementing
- Checking



Oxin Steel Company is located in the south west of Iran, to produce wide plates and commissioned from 2010. This factory was built with the total area of 160 hectares and 10 salons of about 100,000 square meter.

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

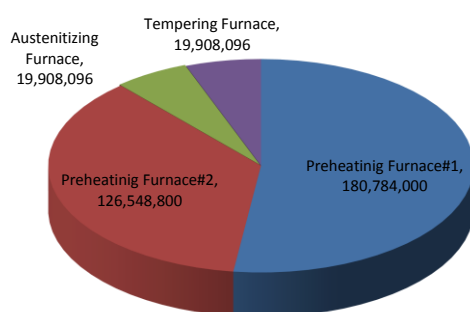
The annual capacity will be reached only by feeding the plant with slabs of 300 mm thickness and 2200 mm width. With the available slabs of 250 mm thickness and 1200 mm width, the nominal annual productivity will be approximately 700,000 tonne per year of hot rolled plates.

The single final plates will meet the guaranteed figures reported in for dimension tolerances and mechanical properties, within the specified product mix.

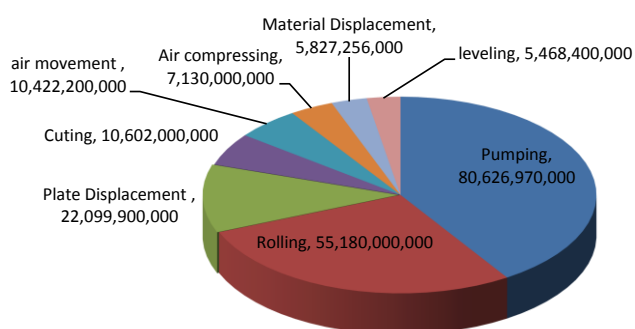
Identification of significant energy users (SEUs)

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 Co., some activities that have added particular benefits to the company are as following:

- Increasing the level of understanding about EnMS for energy team;
- Promoting the participation of staff in implementation of improvement projects;
- Growing up the important of energy in all level of company;
- Providing communication lines between units and staff with energy manager;
- Top management focusing on energy use and consumption in company and following the EnMS project.

Planned energy saving objectives, targets and action plans

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

- **Reducing 3% electricity consumption in compare to the base year (2013):**
 - Reducing 0.8% of electrical energy consumption by increasing furnace temperature over 30 °C.
 - Reducing 0.3% electrical energy consumption by controlling the water temperature set point of cooling tower on 35 °C.
 - Reducing 1.9% of electrical energy consumption in by installing a new VSD equipped compressor.
- **Reducing 1.4% natural gas consumption in compare to the base year (2013):**
 - Reducing 1% of natural gas consumption by setting heating time in actual time which is defined by designer.
 - Reducing 0.4% of natural gas consumption by regular maintenance and operational actions (control of insulation, checking of the burners, analyzing the exhaust flow, etc.)

For more information

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