

Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in operations, Sinai Cement 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 Sinai Cement Company to implement an Energy Management System in alignment with ISO 50001 for an overall improvement in energy efficiency and improve environmental impact.

EGYPT

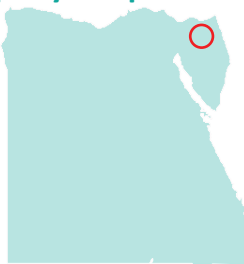
A Case Study of Sinai Cement Company

Sinai Cement Company Snapshot

Industry: Cement industries

Location: North Sinai Egypt

Product: Cement



Implementation cost: ~0.100 MEGP

EnMS Scope: electric and thermal energy

Annual Energy savings: undefined

Financial savings: undefined

GHG reduction: undefined

Overall payback: undefined

Objectives period: undefined

Project Status: planning mid-way

Time to implement EnMS: 1.3 years

Sinai Cement Company is the first important large industrial investment in Sinai Peninsula. It is a private company with partial ownership belonging to the French cement producer Vicat. The company has two lines with installed capacity of 3 million ton/ year of cement. Until 2010, the plant used to burn natural gas in pyro-processing. Currently, the company fires coal, petcock and RDF.

The company applies certified management systems according to ISO 14001 and OHSAS 18001. and the production is approved by CE Mark.



Implementing EnMS in Sinai Cement Company is the way out

Sinai Cement Company plant used to be the supplier and operation and maintenance contractor show-case in efficiency and productivity until beginning of 2011 when it was still firing natural gas for pyro-processing. Similar to all cement sector companies, Sinai Cement Company has been badly affected by the recent energy shortage and the elimination of government energy price subsidy. The problem has been even more aggravated for Sinai Cement Company as result of political unrest and the continuing security issues in the peninsula until now. The company management is accepting the challenges and is continuing in operation of the plant; however, taking serious steps to revive the operation efficiency conditions of the years before 2011. Therefore, the decision has been taken to join hands with IEE project-UNIDO to introduce EnMS in the plant as a tool to improve the current energy performance and to bring efficiency back and even surpass to the normal levels.

Sinai Cement Company ambitious EnMS challenges

During one of the early meetings to introduce the system to the company top management the Managing Directors expressed the reason for the company to join IEE project as *"In view of our plant conditions and the continuous energy cost increase, it is our first priority to target energy efficiency in order to improve our competitiveness and to protect the environment against the excessive fuel combustion emissions"*. Both the company

management and IEE project management took a further challenge: training and meetings with consultants shall take place at the company headquarters in Cairo with the expectation that eventually the security issues will be resolved.

UNIDO, a key player in the plant's success

Following the half day introduction of the EnMS and the guidelines of ISO 50001 to the top management, a management representative has been appointed; who immediately appointed energy team including members from operation and maintenance contractors. IEE UNIDO provided the two day user training to the team and key members from the plant.

With the support of the delegated consultants, the energy team has drafted the energy policy (approved by the company MD), carried out energy review, identified SEUs, developed baselines and worked out new energy indicators. As the plant went through several major overhauls, and the fuel changed from furnace oil and HFO to coal and RDF, it was decided to repeat the baseline analysis for the pyro-processing in the two lines. However, the team continues to work on critical operation parameters, measurement plan, documentation, training plan, etc. and the rest of the system components.

Energy Saving Opportunities

As the plant maintenance conditions were badly affecting the energy performance, and all important energy efficiency improvement opportunities were maintenance work measures; additionally, the company was planning for a shutdown to carry out a major overhaul, it was decided to delay identifying and studying the energy saving opportunities after finishing the overhaul works.

Currently, most of the maintenance work has been finished and the production lines have been re-started. The energy team is now working on identifying and studying energy conservation opportunities.

Barriers

During the planning and implementation of the EnMS barriers & obstacles were mainly related to:

- Frequent changes in the company top management. The EnMS activities were paused after each change.
- Due to the restrictions of consultants travel to the plant, the meeting with energy team took

place in Cairo which made the meeting infrequent, 9 meetings in 16 month.

- As the plant conditions needed frequent maintenance work, the plant awareness on EnMS was not carried out.
- Restricted telecommunication with the plant during the day-time, as imposed by security, limited smooth flow of information between the consultants and the energy team.
- Plant staff were not involved in the EnMS development

It is worth mentioning that near the end of term period of the project, a very committed and competent new Plant Director was appointed. He immediately worked on eliminating most of the barriers starting with involving all staff not only at the plant but on the company level as well.

Lessons Learned

The main lesson of the experience of introducing the EnMS at Sinai Cement Company are:

- Introducing EnMS during operation in-stability resulting from security issues, risks losing time and effort. Under these conditions, efficiency would never be a priority, continuity at any price usually is.
- Meetings with consultant at location remote from the plant would work if the plant director is personally involved and following up the project.
- Appointing a strong committed and competent Plant Director makes significant difference in dealing with barriers and obstacles, even with the explained conditions.



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