

Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in operation, AlSaad Aluminum 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 AlSaad Aluminum Company 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 AlSaad Aluminum Company

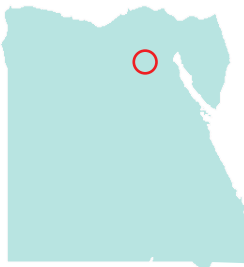
AlSaad Aluminum EnMS Snapshot

Industry: Aluminum

Extrusion

Location:

Mostorod, Cairo,
Egypt



Product: variety of aluminum alloys and industrial services

Implementation cost: ~0.10 MEGP

EnMS Scope: Electric & thermal energy

Annual Energy savings: ~4.45 GWh

Financial savings: ~3.00 MEGP

GHG reduction: ~ 2,640 tons CO₂eq

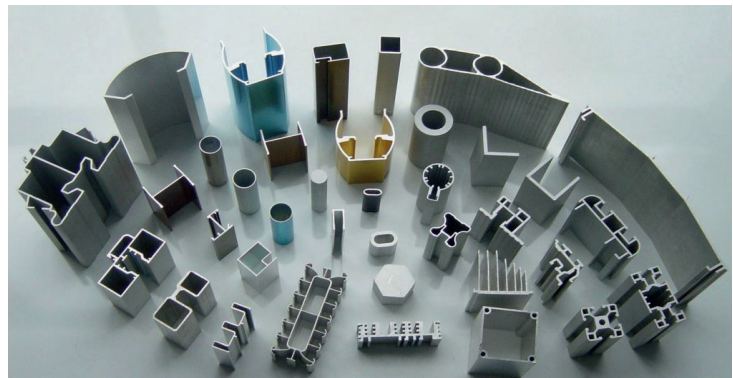
Overall payback: 2 years

Project Status: at the end of planning

Time to implement EnMS: 9 months

AlSaad Aluminum Company has started production in 1976 and currently produces aluminum profiles and foils with records in exports to the Middle East, Africa and Europe. The company is located in Mostorod industrial zone within Cairo Governorate and operates four extruders with a total annual production of around 40 Million tons.

AlSaad Aluminum is a full service aluminum extrusion plant, offering a variety of alloys, finishing and fabrication options as well as industrial services.



Implementing EnMS in AlSaad is the way out

In the turmoil of energy prices jumps and lifting of government energy subsidy, AlSaad Aluminum Company management is carefully cutting down all unnecessary consumptions of resources and is looking for more optimized and efficient operations. Adoption of EnMS has provided the systematic approach to monitor, record and manage energy consumption. EnMS additionally has provided the framework to study inefficient processes, identify energy conservation opportunities and create action plan to eventually set energy performance company objectives and department targets.

AlSaad EnMS objectives

The company is still in the last steps of planning phase and only few of the identified opportunities have been studied and planned. Meanwhile for the rest: saving estimation, required investment and payback periods are still under through study in order to set action plan yielding company energy objectives and department targets.

UNIDO, a key player in El AlSaad success

The delegated consultants from IEE- worked hand in hand with the company energy team to draft the energy policy, identify significant energy users. The roles and responsibilities have been set for staff influencing energy consumption. Drivers have been identified and the baselines for the company and for

each of the SEU have been developed. Due to lack of past accurate records, the current specific energy consumption is used as baseline until the sub-meters are installed and accurate records are available; then regression analysis shall be carried out and proper baselines will be developed.

Energy Saving Opportunities

Identified and Planned Opportunities						
S	Identified and Planned Saving Opportunities	Elect Savings MWh	Ther. Saving MWh	Savings MEGP	Investment MEGP	Payback Year
1	Recycling of hot air (3 extruders)	-	500	0.90	0.15	1
2	Heat Recovery (scrap furnaces)	-	250	0.45	0.05	1
3	Extruders Motors (4 lines)	2,500	-	0.92	1.5	2
4	Operational control and handling electricity	1,000	200	0.73	-	1
Total		3,500	950	3.00	1.8	

Barriers

The implementation of the EnMS at AlSaad Aluminum has proven to be difficult as, as the company management was not able to be committed to the establishment of EnMS; though the need and interest were repeatedly confirmed by management. The following could be pinpointed as barriers to impalement the system:

- lack of the top management commitment
- lack of optimization and efficiency culture in the company
- lack of awareness of energy efficiency and its environmental impacts
- lack of energy training or even training plan
- lack of sub metering

The IEE project has provided management awareness and EnMS user training; however, management commitment was still missing.



Lessons Learned

Implementing the EnMS at AlSaad Aluminum Company has provided the obvious proof that management commitment is requirement number one to adopt and introduce EnMS in a company. The management commitment will help to get the required training and awareness and eventually the change towards “optimization and efficiency culture”.



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