

**You can increase your Profits!!  
Read further to know how...**

*Profit through energy savings.....*

# Energy Efficiency Improvement for MSMEs in Forging Sector

Issue 4

Pune

July – September 2013

e-newsletter

## Energy Audit Leads to Savings of about Rs. 36 lakhs per annum



“.....We will save Rs 36 lakhs/ annum.....”-

“.....Product quality and productivity improves.....”

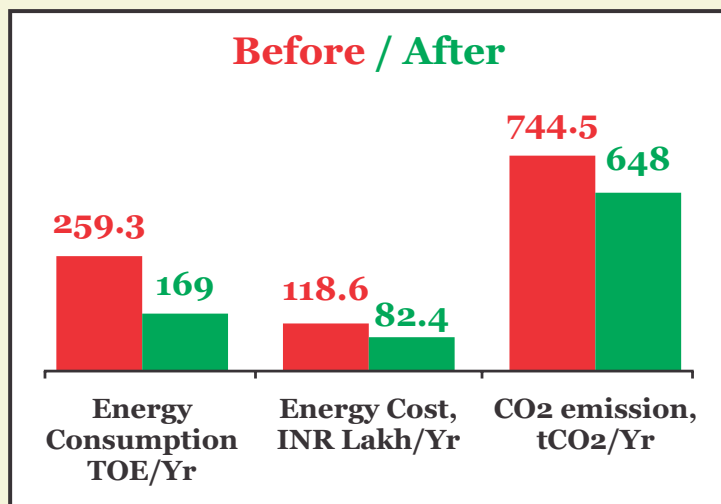


**Mr. Hemant Kulkarni, Partner**

**Mr. Dnyaneshwar Ranawade, Partner**

At Duurrman Engineering Co., the energy cost comprises of 30-35 % of the total turnover. The production cost was continuously increasing with the rising FO prices. It was observed that as high as 85-90% of total energy consumption of the plant was utilized for heating the billets in 3 billet heating furnaces running on Furnace Oil (FO). As a strategic cost-optimisation step, the unit decided to switch from FO to piped Natural Gas (PNG) as primary fuel in the billet heating furnaces. The move resulted in improvement of product quality and reduction in specific fuel consumption for the reheating process, thereby reducing production cost by 5 – 10%.

Given the cut-throat competition, the management wanted to explore more solutions helping them to reduce their input cost. A detailed energy audit was conducted and the team of experts under GEF-World Bank project identified the following energy conservation measures in different sections of the forging plant which considerably reduces the energy consumption.



Measures	Savings (Rs.Lakhs/yr)	Payback Period
Induction billet heater	26.00	30 Months
Optimum size combustion air blower for forging furnace	4.90	< 1 Month
Variable Frequency Drive for Air Compressor	3.00	7 Month
APFC panel – PF Improvement	0.75	<1 Months
Replacement of Hammer motor	0.55	29 Months
Air Compressor pressure reduction	0.50	Immediate
Efficient Lighting Retrofits	0.44	32 Months
<b>Total Savings</b>	<b>36.00 lakhs / annum</b>	

The data provided is purely for indicative or informational purposes only. No liability will be accepted for any usage of or reliance on, the data or information provided herein.

GEF-WORLD BANK PROJECT- Financing Energy Efficiency at MSMEs



The World Bank



Global Environment Facility



Small Industries Development Bank of India (SIDBI)



Bureau Of Energy Efficiency

## M/s. Ulka Engineering, Pune, will save Rs. 35 lakhs / annum

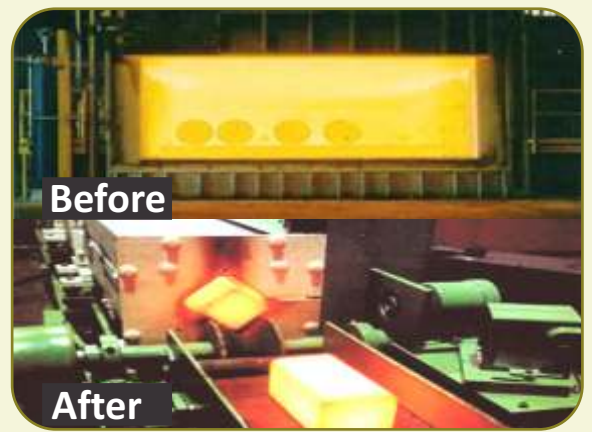
It is recommended to replace the existing FO fired forging furnace with energy efficient induction billet heater of rating 45 kW (70 kg per hour capacity) and specific energy consumption of about 450 kWh per tonne. The efficiency of this furnace was 5.54% calculated based on the operating parameters measured during the detailed energy audit. With the adoption of induction billet heater, the specific energy cost of production will come down from Rs. 12,633 per tonne of job to about Rs. 3,479 per tonne. This intervention also required a capacity enhancement of the existing electrical transformer and distribution system of the unit.

The unit is getting following benefits by adopting the suggested Energy Efficiency Improvement Action.

**Savings by reduction in HSD consumption**

**Reduction in Energy consumption**

**Installing the Induction Billet Heater costs Rs 22.24 lakhs only  
& the unit gets payback in 7.5 months only!**



**Rs 35.10 lakhs/year**

**77.10 toe /year**

**Additional benefits:** The FO fired furnace required exhaustive maintenance and skilled manpower for operation, which could be avoided with this intervention.

## Cluster News



SIDBI and BEE with TATA Clean Tech and MITCON organised a seminar on “Technical Support & Financial Schemes for Energy Efficiency” on September 11, 2013 in Pune. Attending MSMEs listened keenly and interacted with experts regarding project activities and various financial schemes by SIDBI and other banks and financial institutions. Forging and Heat Treatment MSME units have shown enormous interest in various project activities in the cluster and also actively participated in this event.

SEE-Tech organized 4th Training Workshop for Energy Professionals on Energy Conservation Techniques for Forging Sector on 24th & 25th September in Pune. The two day training program received

good participation and featured technical sessions on Waste heat recovery, energy conservation through Automation, and energy conservation in fuel fired furnaces, pumps, air compressors, lightings etc. The workshop concluded with a visit to M/s. SB Engineers where the successful case study of veneering (hot face insulation) in furnaces was showcased to the participants.

## Upcoming Activities

MITCON is planning to conduct a technical seminar on Energy Efficiency in Forging Sector for MSMEs and other project stakeholders in the month of December 2013.

Date: To be Announced



For any further information and clarification related to project activities, please contact



### **BUREAU OF ENERGY EFFICIENCY**

(Ministry Of Power, Govt. of India)

Sewa Bhawan, 4th floor, R.K. Puram, New Delhi 110 066

Tel: 26179699 ( 5 Lines) Fax No. 011-2618328 / 26178352

email: save-energy@beenet.in