

## 7% reduction in energy bill of a sheet metal MSME unit through Energy Efficiency Measures

### Background

Faridabad is a mixed cluster in Haryana having over 12000 MSMEs majorly manufacturing various kinds of automobile parts, sheet metal components and fabrics. There are majorly 15 industrial segments in the cluster with a high range of products from soaps to tractors.

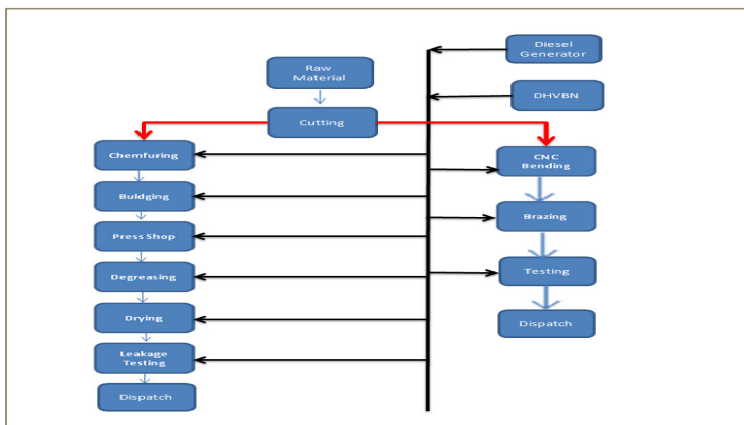
### Unit Profile

M/s ABC is a MSME unit engaged in manufacturing of sheet metal and tubular components. Total Energy bill of the unit was Rs.139 lakh per annum which was around 3% of total turnover. About 93% of the unit's energy bill was on account of Grid electricity and remaining 7% accounted for Diesel-DG.

### Process description

The manufacturing process is mainly divided into two parts:

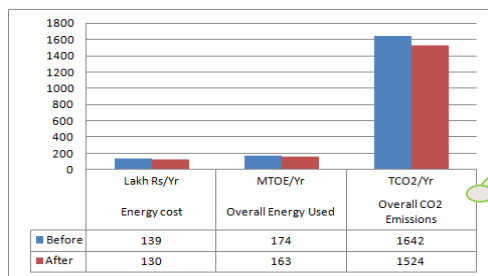
**Tubular Components:** First raw material is procured. Pipe cutting is done & sent to CNC bending machine. Then copper brazing is done on the material in copper brazing furnace. Electrical oven is used for powder coating. Final Inspection is done & material is dispatched.



**Sheet metal:** First raw material is procured. After bulging the material is sent to the Press shop. After Press shop Degreasing is done. After the drying operation leakage test is done. Final Inspection is done & material is dispatched.

Diesel and Grid Electricity were used to operate major energy consuming equipments in the unit i.e. electrical ovens, compressors, press machines, furnace and other utilities i.e. pumps, motors associated with equipments, and lighting.

### Overall Impact - Post implementation



**Overall Impact**  
 45% reduction in Total Energy bill (i.e. savings of INR 9 lakh p.a.) Simple payback of 16 months

*This case study has been prepared under WB GEF Project titled "Financing Energy Efficiency at MSMEs in India". The project aims to identify, design & implement Energy Efficiency (EE) solutions in 500 MSMEs in 5 clusters with potential of EE investment of more than Rs. 100 crore and reduction in GHG emissions equivalent to 1.2 million tonne CO<sub>2</sub>. This project is being co-implemented by Small Industries Development Bank of India (SIDBI) and Bureau of Energy Efficiency.*

### INTERVENTIONS

## Installation of Energy Monitoring System on the Main Incomer

Baseline Scenario

Implemented Scenario

### Installation of Servo Stabilizer for Brazing Furnace

The average line voltage of the unit was 436 V. As suggested, the unit has installed a servo stabilizer to reduced to 410 V. This has helped the unit to reduce the overall energy consumption and improved performance of equipments.

### Replacement of T-8 & T-5 lamps by LED lights

The unit was lighting the production area through T-5 & T-8 lamps. With the suggested recommendation, the unit has replaced existing lamps by LED lamps. This has resulted in an annual energy saving of 18166 kWh of electricity, equivalent to about Rs. 1.24 lakh per year with simple payback period of 12 months.

Support  
provided under  
the Project

- Walk Through & Detailed Energy Audit
- Identification of Energy Efficiency Interventions in the unit
- Finalization of the specifications for the Energy Efficiency Interventions
- Identification of technology providers/vendors
- Facilitation for an interactions between the unit and technology providers;
- Technical support during commissioning
- Monitoring & Verification

**Disclaimer:** This case study has been compiled by DESL on behalf of SIDBI under WB GEF Project. While every effort has been made to avoid any mistakes or omissions, any agency would not be in any way liable to any person by reason of any mistake/ omission in the publication.

**For Further Information please contact at**

Energy Efficiency Centre, Small Industries Development Bank of India (SIDBI), Ground Floor, E-1, Videocon Tower, Jhandewalan Extension, Rani Jhansi Road, New Delhi-110055, India, Ph. 011 23682473-77, [www.sidbi.in](http://www.sidbi.in)

