MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

Ministry of New and Renewable Energy
Government of India

"PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MSME CLUSTERS IN INDIA"

To develop and promote a market environment for introducing energy efficiency and enhanced use of renewable energy technologies in process applications in the selected energy-intensive MSME clusters, United Nations Industrial Development Organization (UNIDO) in collaboration with Bureau of Energy Efficiency (BEE) is implementing a project titled "Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India" funded by Global Environment Facility (GEF) and co-financed by Ministry of Micro, Small and Medium Enterprises (MoMSME) and Ministry of New and Renewable Energy (MNRE).

Installation of energy efficient LED lighting in the shop floor

Objective

Reduce the energy consumption by lighting in the unit by installing energy efficient LED lights.

Implementation

Installed energy efficient LED lights in place of existing incandescent light bulbs, fluorescent tube lights and sodium vapour lamps in the unit. Lighting load in the unit has reduced to 2.538 kW from 10.275 kW.

Principle

LED lights are the most energy efficient lights compared to incandescent, CFL, fluorescent and sodium vapour lamps. They produce more lumens per watt compared to all other lights. They have longest average life span of 25,000 hours and also have a very good (80 to 98) colour rendering index.

Savings
₹ 2,50,650

Investment
₹ 1,90,400

Pay Back
10 months

Prepared & designed by:
Confederation of Indian Industry

Unit Profile

Victor Forgings is a hand tools manufacturing unit established in year 1954 at Jalandhar. They manufacturevast range of spanners, wrenches, pliers, vices, hammers, automotive tools and carpentry tools.

Benefits

- **Reduced energy consumption**
- **Improved brightness in the shop floor**
- **Longer life of the lights, less cost of replacement / maintenance**

Outcomes

- **33,420 kWh of annual energy saving**
- **₹ 2,50,650 of annual cost saving**
- **27.4 T of CO_2 reduction per year (0.82 kg/kWh)**

Replication Potential

In all the units with incandescent, CFL, fluorescent and sodium vapor lamps.

Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/day) * no of working days/year

Cost Economics

	Before implementation	After implementation
Total capacity (kW)	10.275	2.538
Electricity consumption per day (kWh)	123.3 (12hr/day)	30.46 (12hr/day)
Electricity consumption per annum (kWh)	44,388 (360 days/yr)	10,968 (360 days/yr)
Energy saving per annum (kWh)	33,420	
Cost savings per year (₹ 7.5/ kWh)	₹ 2,50,650	
Investment cost	₹ 1,90,400	
Simple Payback period	10 months	

Contact details :

Unit
Victor Forgings
A-3 & 4, Focal point, G.T. Road bypass
Jalandhar 144012
+91 18150 30200 | info@victortools.com

Cluster Leader
0

PMU
GEF-UNIDO-BEE
4th Floor, Sewa Bhawan, Sector-1,
R.K. Puram, New Delhi - 110066
gubpmu@beenet.in
+011-26194770

United Nations Industrial Development Organization
Mr Sanjaya Shrestha
Industrial Development Officer
UNIDO
s.shrestha@unido.org