# Harita Seating Systems Limited
# Hosur (Tamil Nadu)

## Unit Profile

**Harita** ***is the Sanskrit word for verdant prosperity***. Harita Seating Systems Limited (HSSL) established and promoted by members of TVS family to provide customized seating solutions, taking into account the difficult Indian road conditions. Commercial production was started in 1988 and the company soon went public. HSSL had developed in-house competence in seat technology relevant for Indian market through the product launches made in the past decade.

HSSL is the only seat manufacturer to provide complete seating solution to all segments of automotive industry by serving more than 50 major customers across India with 170 products and 368 variants along with add on features in nine different segments. HSSL continue to strive to exceed customer's ever increasing expectation by developing innovative products. This posses a challenge to continuously improve in all spheres of business.

HSSL has been consistently growing right from inception from a level of 14 lakhs and closed the last financial year (FY04) with a figure of 93 crores of turnover.

## Energy Consumption

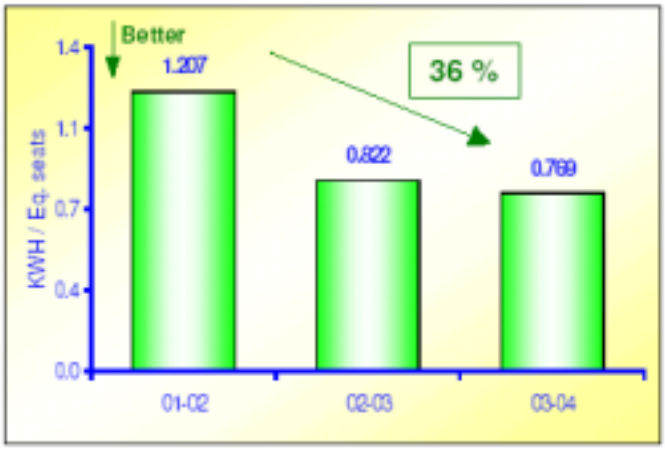
Thanks to the implementation of various energy conservation initiatives, there has been a significant decline in energy consumption at HSSL in the last 3 years which is evident from the below table:

| Description | Units | 2001-02 | 2002-03 | 2003-04 |
|---|---|---|---|---|
| Annual production (equivalent seats) | Numbers in Lakhs | 11.59 | 18.51 | 22.25 |
| Total energy consumption/annum | Lakhs kWh | 13.99 | 15.22 | 17.11 |
| Specific energy consumption –Electrical | kWh / Eq.seats | 1.207 | 0.822 | 0.769 |
| Total thermal energy consumption / annum | Million kCal | 1314 | 1364 | 1412 |
| Specific energy consumption – Thermal | Million kCal / Eq.seats(Lakhs) | 113.38 | 73.7 | 63.45 |
| Energy cost as % of total manufacturing cost | Percentage | 14.1 | 13.8 | 13.2 |

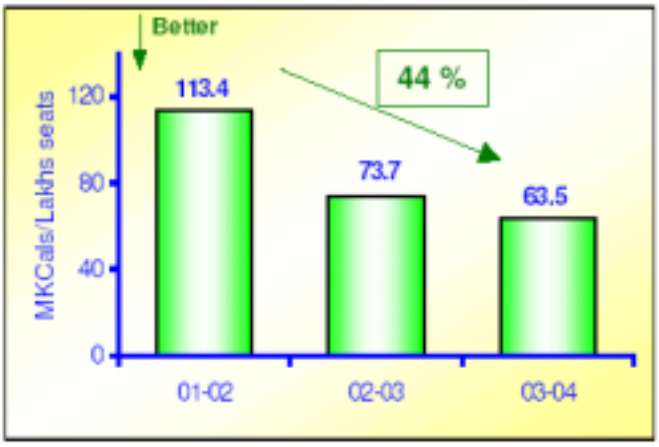
**Reduction in specific energy consumption (SEC)per equivalent seat in last 3 years**

| Year | Electricity Consumption (kWh/Eq.seats) | % of reduction over 2001-2002 | Thermal Consumption (kCal / Eq.seats) | % of reduction over 2001-2002 |
|---|---|---|---|---|
| 2001-2002 | 1.207 | - | 1134 | - |
| 2002-2003 | 0.822 | 32 % | 737 | 35 % |
| 2003-2004 | 0.769 | 36 % | 635 | 44 % |

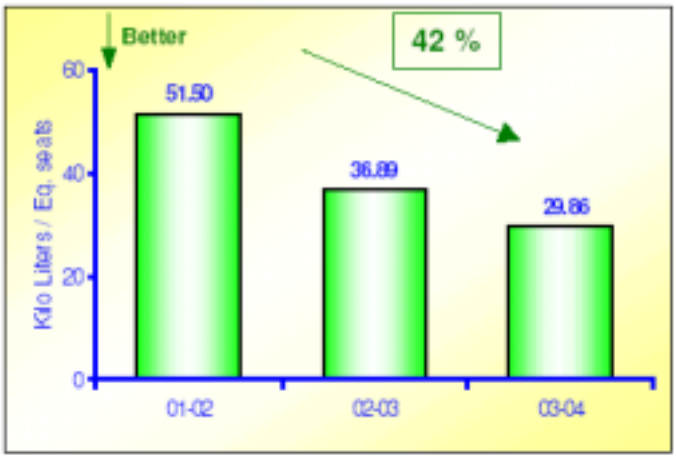
## ELECTRICAL CONSUMPTION



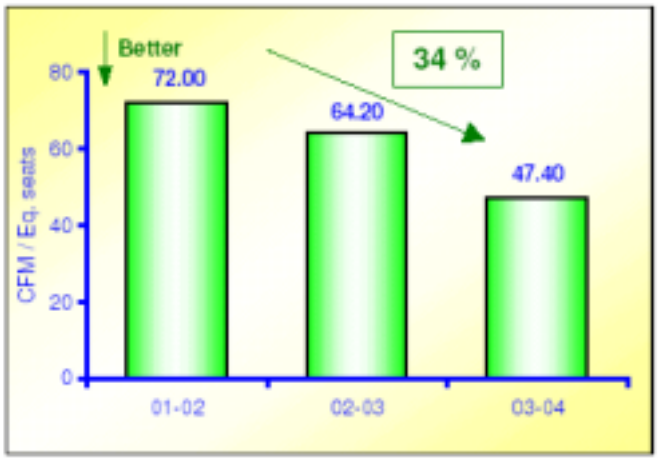

## THERMAL CONSUMPTION




## WATER CONSUMPTION




## COMPRESSED AIR CONSUMPTION



## *Energy Conservation Commitment, Policy and Set up*

HSSL strongly believes in integrating the environment with every sphere of business activity through establishing a clear policy to ensure well being of the employees and society at large.

Energy conservation is nurtured as a culture at HSSL and forms part of actions initiated towards this commitment.

**Harita Units**

**Environmental Policy**

We at Harita Seating Systems Limited (HSSL), Harita Rubber Products (HRP), Sundaram Plastics (SP) and Sundaram Clayton Limited (SCL) located in Harita complex, Belagondapalli, Hosur, are involved in manufacturing of automotive seating systems, engineering rubber components, engineering plastic components and aluminium die casting products respectively. We are committed to continually improve our environmental performance by

★ Conservation and/or optimal utilisation of water, oils, energy, compressed air and raw materials such as

- Polyurethane chemicals, rexine, fabric and epoxy polyester powder by HSSL;
- Raw rubber and chemical additives by HRP;
- Plastic granules by SP and
- Aluminium and die-coats by SCL.

★ Controlling generation of emissions, effluents, solid wastes and noise.

★ Complying with all applicable legal requirements.

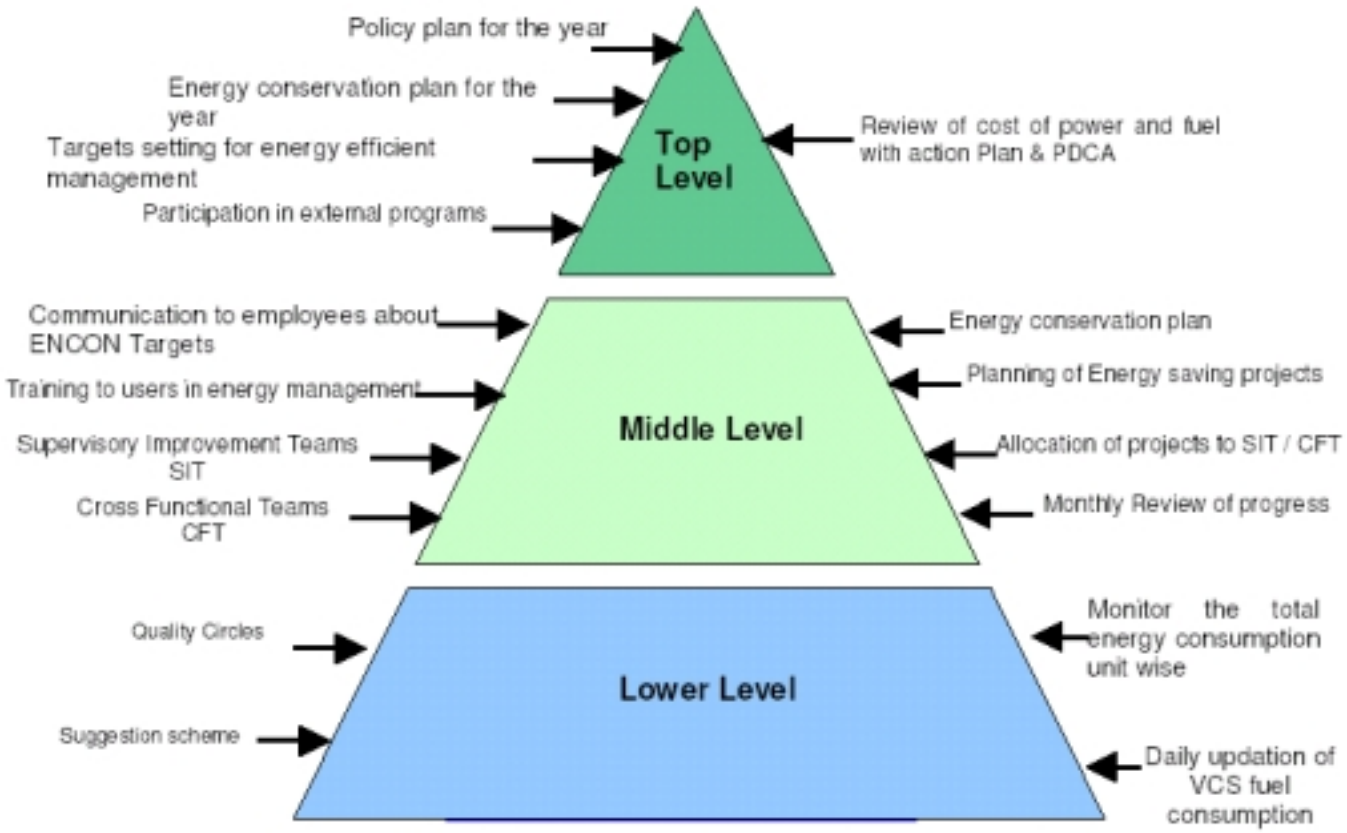
★ Training and building awareness among all our employees.

★ Encouraging suppliers and contractors to become environmentally responsible.

We will communicate this policy to all employees and make available to the public.

## *Energy Conservation Set up*

**Working System of Energy Management**




## *Energy Conservation Achievements*

From 1997 onwards, Harita Seating Systems is actively involved in inventing new ways of conserving energy. During the period of 1998 to 2004, 78 projects have been implemented to save energy to the tune of 62 lakhs with an investment of 18 lakhs. This has resulted in a reduction of 36%in specific electrical energy consumption and 44 % in specific thermal energy consumption .

The major mile stone activities during the year 2003-04 are

**1. Redesign of PLC programs in Mould fixture**

**Old design of program**

Hydraulic operated mould fixtures are used in linear carousel to produce polyurethane cushions. The hydraulic power pack is used here to actuate the door closing / opening and door clamping cylinders.

Earlier, the hydraulic circuit and the power pack was working continuously throughout each cycle with a cycle time of 340 seconds. This resulted in huge power consumption.

**New design of program**

Trials were conducted by switching on the hydraulic power only at specific locations during each cycle and switch-off the hydraulic power pack during the remaining time of cycle. This showed a potential to reduce electrical power consumption. Hence, PLC program is redesigned and modified to effect these changes for implementation of the project.

Savings : Rs 5 lakhs per annum

Investment : 35 executive man-hours for modification of PLC programs

Payback : 1 day

**2. Renewable energy source for water heating – Solar energy**

**Old method**

Steam boiler is used for generation of steam from raw water for canteen cooking purpose. Superior Kerosene Oil (SKO) is used as fuel to create thermal energy.

**New Method**

Solar heating system is installed to heat the water initially from the ambient to 80 degrees Celsius and fed to the boiler. This reduces consumption of SKO.

Savings : Rs 2.75 lakhs per annum

Investment : 2.5 lakhs

Payback : 11 months

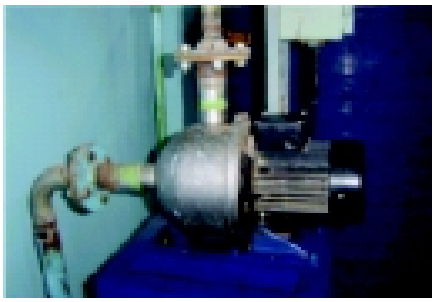
**3. Higher efficiency low rating pumps**

**Old method**

In metal pre-treatment process in the powder coating system, unit was using 4 numbers of 3KW centrifugal pumps for pumping the chemical and water.

**New Method**

The above said pumps are replaced with 0.75 KW, high energy low rating new generation compact pumps.



**Other projects implemented during 2003-04**

- Installation of low wattage fluorescent tubes in office area
- Automatic level controller for Thermopac
- LDR control for Lighting

- Energy saving devices for blowers
- Stoppage of idle running of motors
- Low rating pumps for mould temperature control systems
- Pull chord switches for lighting and fans
- Temperature control unit for Mould Temperature

## *Energy Conservation Plans and Targets*

| Energy conservation measures planned | Anticipated savings in energy (Rs. Lakhs) | Approximate investment (Rs. Lakhs) | Project commencement and completion year |
|---|---|---|---|
| Conversion of fuel from SKO to LPG for powder coating process | 25.0 | 22.0 | 2004-05 |
| Frequency drive units for existing motors | 1.5 | 2.0 | 2005 |
| Energy efficient motors for process plants | 16.0 | 11.0 | 2005-06 |
| Solar heating for Mould temperature control system | 1.1 | 1.3 | 2005 |
| Energy saving devices for compressed air system | 3.5 | 2.5 | 2005 |

**Adoption of "Clean Technology " and "Achieve Zero Accidents" is taken up as the company's goal**

## *Environment and Safety*

Clean and safe work environment

New initiatives for clean and safe work environment are listed in Fig. 1

| **ISO 14001 TPM OHSAS 18001** | | |
|---|---|---|
| Steps followed<br>- Initial environment review / survey<br>- Finding the scope for improvement<br>- Setting of environment policy<br>- Setting improvement projects and action plan<br>- Preparation of apex manual | Safety pillars focused on<br>- Major accident zero<br>- Minor accident zero<br>- Near miss accident zero<br>- Unsafe condition zero<br>- Improve illumination<br>- Reduce air pollution<br>- Reduce water pollution<br>- Reduce noise pollution | Occupational health and safety<br>- Sustaning zero accident level<br>- Systematic approach towards accident prevention |

**Fig 1**

EMS Improvement is continuously focused upon. So far 18 major projects have been completed and 3 projects are currently under progress. Some of the projects are shown in Fig 2 to Fig 4. All these projects are designed and executed by the unit's employees.

**Exhaust system for PU cushion machine**

- 15 air changeovers / hour
- 3%reduction in CO in air
- Improved ambient air quality

**Fig 2**

**Effluent recycling plant**

- 75,000 ltrs / day
- Reused in the process
- Superation of concentrated & dilute effluent

**Fig 3**

**Foam recycling plant**

- Recycling of avg 5 tons per month of foam, rexine & fabric
- Rs 25 lacs saving – 2003-04
- Meets customer reqmt
- Dual hardness

**Fig 4**

**Safety audit:** Safety committee comprising of 5 executives constituted each year conducts audit under the guidance of safety officer on monthly basis. Performance of each area is monitored through safety boards displayed at genba. This committee will raise NCRs (Non conformity report) in the areas of electrical, fire, use of PPE (Personal protective equipment), equipment and material handling system. Audit process is as indicated in the Fig 6 and Fig 7 indicate NCRs raised and cleared. President reviews the NCRs and corrective actions every month.


**Fig 5**

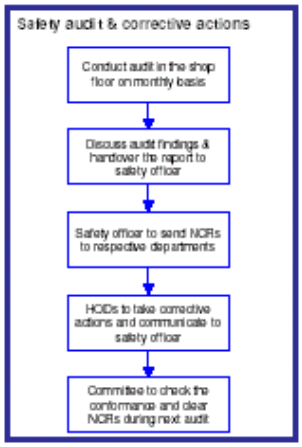



**Fig 6**

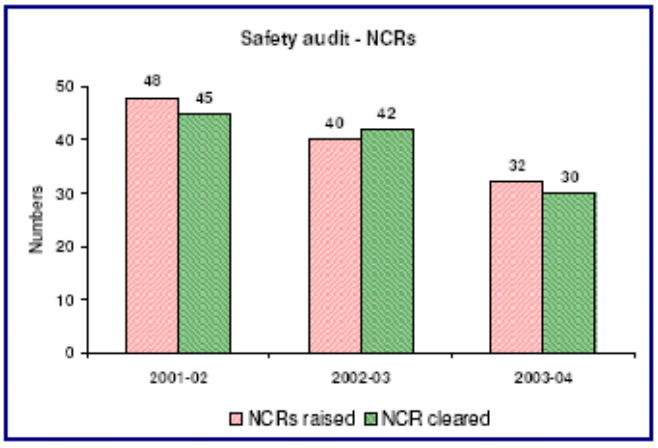



**Fig 7**