

Harita Seating Systems Limited

Hosur, (Tamilnadu)

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 poses 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 (FY07) with a figure of 157 crores of turnover.

Energy consumption

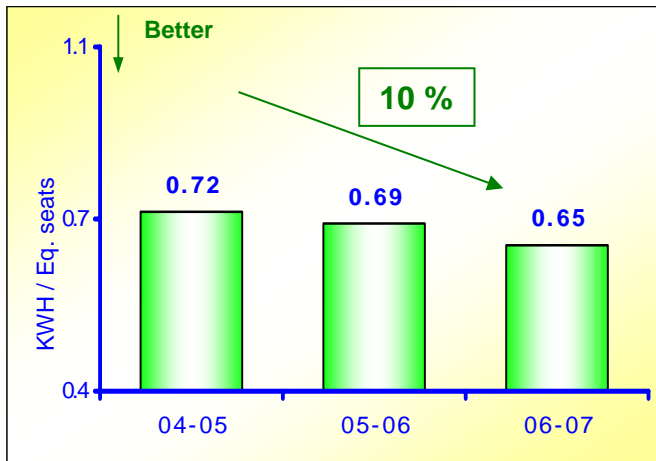
Thanks to the implementation of various energy conservation initiatives, there has been a significant decline in energy consumption at HSSL in the last 3 years which is evident from the below table:

Description	Units	2004-05	2005-06	2006-07
Annual production (equivalent seats)	Numbers in Lakhs	27.41	33.79	33.79
Total energy consumption/annum	Lakhs kWh	19.61	23.34	23.06
Specific energy consumption – Electrical	kWh / Eq.seats	0.715	0.691	0.647
Total thermal energy consumption / annum	Million kCal	1302	1256	1256
Specific energy consumption – Thermal	Million kCal / Eq.seats(Lakhs)	47.5	37.2	31.2
Energy cost as % of total manufacturing cost	Percentage	12.5	11.42	10.24

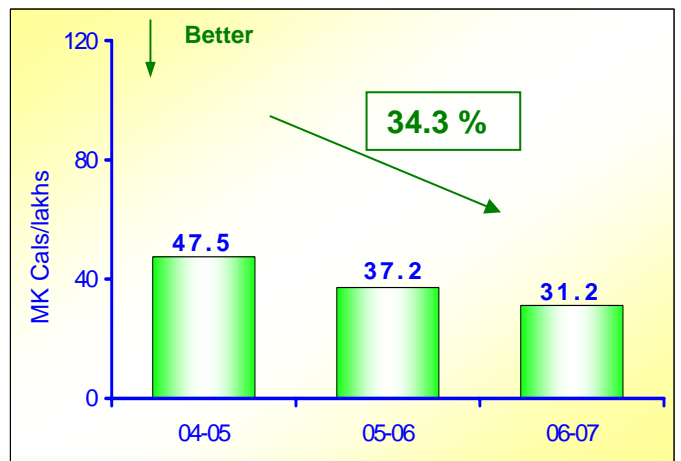
Reduction in specific energy consumption (SEC) per equivalent seat in last 3 years

Year	Electricity		Thermal	
	Consumption (kWh/ Eq. seats)	% of reduction over 2004-2005	Consumption (kCal / Eq. Seats)	% of reduction over 2004-2005
2004-2005	0.715	-	475	-
2005-2006	0.691	3.4 %	372	21.7 %
2006-2007	0.647	9.5%	312	34.3 %

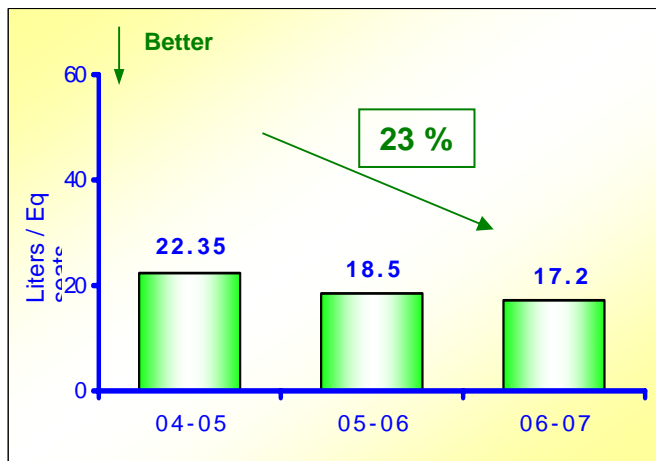
ELECTRICAL CONSUMPTION



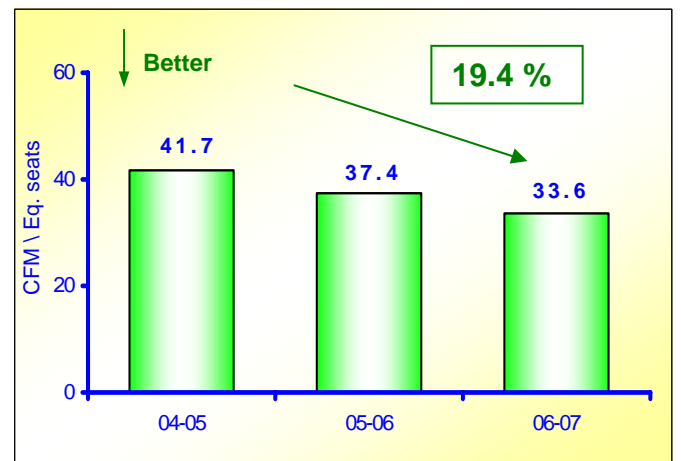
THERMAL CONSUMPTION



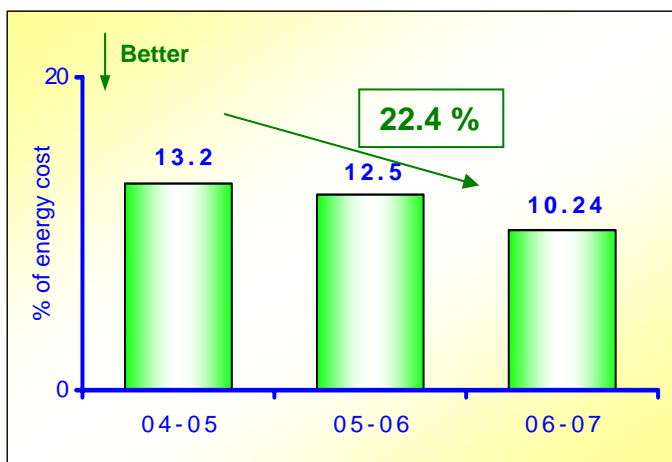
WATER CONSUMPTION



COMPRESSED AIR CONSUMPTION



ENERGY COST



Harita Units

Energy & 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 energy & 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.

01 October 2002

Special officer
C Narasimhan

Harita complex, Hosur Thally road, Belagondapalli, Hosur – 635114,
Krishnagiri dist., Tamilnadu

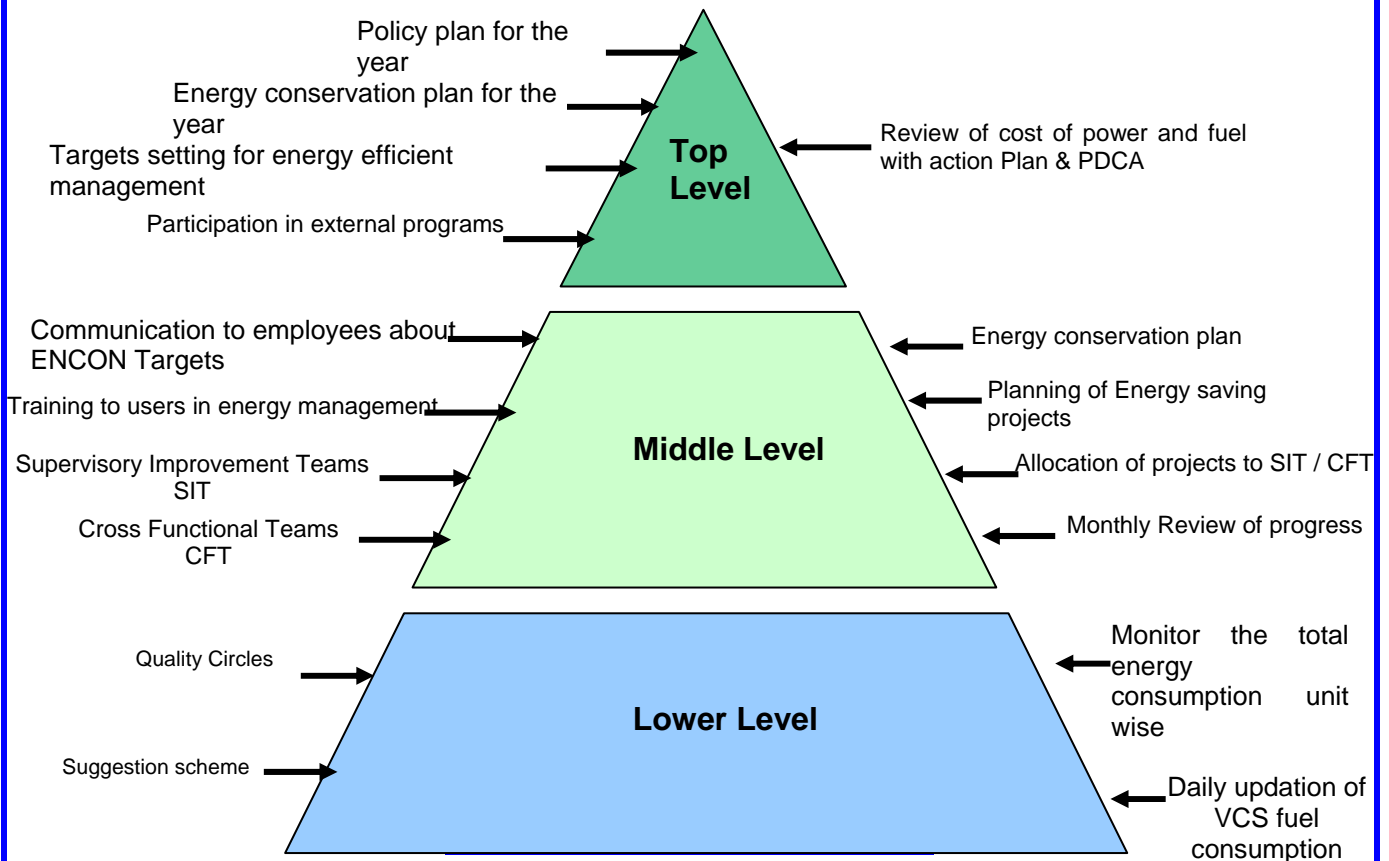
Energy conservation commitment, policy and set-up

HSSL strongly believes in integrating the environment with every sphere of our 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.

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 2007, 126 projects have been implemented to save energy to the tune of 417 Lakhs with an investment of 96.32 lakhs. This has resulted in a reduction of 45.8 % in specific electrical energy consumption and 72.5 % in specific thermal energy consumption.

The major mile stone activities during the year 2006 - 07 are

1. Energy Conservation

Old method

We have High pressure Polyurethane foam dispensing machine equipped with pre-conditioning system, hydraulic system ,chemical metering systems and mixing units for producing different kind of polyurethane cushions



In the PU Arm pad cushion production process we were using Polyol and Iso metering pumps to pump chemical into the mould cavities . Due to the variation in the incoming frequency the output chemical quantity varies to the large extent which results in high weight variation and rejection

New Method

As an alternate method, we have installed the Variable Frequency Drive in the system by which the chemical consumption is reduced. The weight accuracy is also maintained with in one gram per product, and cushions were produced without any defects.

Savings	: Rs 4.72 Lakhs per annum
Investment	: Rs. 0.8 Lakhs
Payback	2 months



Advantages: -

- Reduced wastage of chemical
- Energy saving
- Maintenance free system

2. Energy Saving Automatic power factor Controller

Old method

We are using manual Capacitor banks for controlling and maintaining the power factor in Power and distribution system. This has to be monitored manually and controlled in all three shift .

New design of program

We have installed a Automatic power factor controller in the main power and distribution system . Hence, the power factor was controlled automatic in all the times

Savings : Rs 3.50 Lakhs per annum
Investment : Rs. 2.50 Lakhs
Pay back : 8.5 months



3. Automatic charging for DG battery

We were using manual Battery chargers to Charge the DG batteries. The batteries were over charged and led to breakdowns of Batteries. To overcome this problem we had introduced Automatic Charger with Time based changeover to charge both the Genset Batteries.

This resulted in Energy saving and reduced Breakdown of Batteries.

Savings : Rs 1.37 Lakhs per annum
Investment : Rs. 0.05 Lakhs
Pay back : < 1 month



4. Automatic LDR lighting systems for Street lights

Old method

We are using 150 W Sodium vapor Light Fittings for Factory Street lighting.. These lights are switched on through Timer based circuits. During summer season, lights were switched ON un-wantedly even there is sufficient lighting, due to this there was energy wastage.

New Method

As an Energy Conservation measure, we have incorporated the LDR (Light dependent Resistor) circuit with the existing lighting system. Now the lights are switched **ON/OFF** automatically based on the natural lighting level.



Advantages

- Less Manual intervention
- Energy saving
- Less maintenance cost

Savings	:	Rs 0.5 Lakhs per annum
Investment	:	Rs 0.1 Lakhs
Payback	:	3 month

5. Waste heat recovery system

Old method

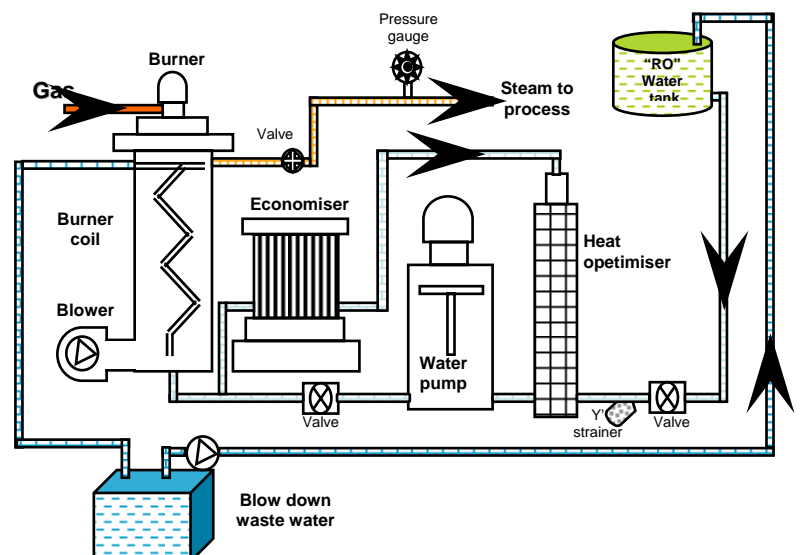
We are using Reverse Osmosis – soft water as feed water for our Boiler for producing steam for cooking, the boiler has to be blow down frequently and the blow down rejected water is let out to the drain.

New Method.

As an Energy conservation measure , we have recycled the rejected blow down water and used as a boiler feed water which has reduced the consumption of energy and water .

Savings	:	Rs 0.90 Lakhs /annum
Investment	:	Rs. 0.10 Lakhs .
Payback	:	1.3 months

Others benefits :
Better utilization of Natural resources



6. Modification of PLC controls System

Old method

PU Foaming systems are equipped with 16 nos of mould fixtures, hydraulic systems and moulds . The moulds are preconditioned through a hot water circulation systems. The pump in the system are running continuously. even during no requirements /demand

New Method

We have modified the PLC control system to operate the pumps of the Hot water heating circulation system only during the demand/requirements by which we are optimizing the energy consumption.



Savings	:	Rs 2.84 Lakhs per annum
Investment	:	Rs. 0.15 Lahks
Payback	:	1 month.

Other projects implemented during 2006-07

- Automatic Timer based switching OFF system for Air conditioner
- Modification of thermal insulation for chilled water system
- Modification of insulation for Chemical piping system
- Modification of waste heat recovery in canteen
- Energy saving T5 fitting for Office and R& D buildings
- Energy saving lighting for Street lighting
- Low wattage light fitting for other area .
- Energy saving by eliminating the idle time operation of powder coating blower system
- Automatic charging of DG batteries

Energy conservation Plan and Targets – 07-08

Energy Conservation Measures (Planned)	Anticipated Saving Rs. Lakhs	Approx. investment (Rs.lakhs)	Project Commencement & Completion year
Energy Efficient Low Wattage Luminaries for Warehouse	0.70	2.0	2007-2008
LDR lighting control for street lights	2.5	1.0	2007-2008
Energy efficient motors and pumps for process equipments	5.1	12.0	2007-2008
T5 Energy Saving Fittings for lighting	0.2	4.0	2007-2008
Control Peak Hour demand through Power and Distribution Modification	4.5	3.0	2007-2008
Timed operation of pumps in solar evaporation pond	0.6	0.2	2007-2008
Waste water recovery system for canteen boilers	0.8	1.0	2007-2008
Renewable energy sources for Air conditioning system	2.0	3.0	2007-2008
Installation of wind turbine generator	77.0	665.0	2007-2008
Non conventional heating system for MTCU	1.5	2.5	2007-2008

Adoption of “Clean Technology “ and “Achieve Zero Accidents” is taken up as the company’s goal

***Energy conservation week is celebrated every year 14th -20th December .
Poster , slogan ,quiz, competition on energy saving was conducted every year and rewarded for the best***



Chief guest Er. Thiagarajan SE, TNEB, Dharmapuri addressing the gathering on Encon day celebration the 16th December 2007, at Harita



Chief guest Er. Udhaya Kumar , Chief Engineer , TNEB, Dharmapuri addressing the gathering on Encon day celebration the 16th December 2007, at Harita

Environment & Safety

Clean and safe work environment

Harita seating systems is committed to protect the environment by Prevention of Pollution and continual improvement in our processes and systems to improve Environmental Performance. The company is ISO 14001 :2004(EMS) certified by BVQI and working towards implementation of OSHAS 18001.

In house audit is carried out every year and by a continuous process of educating the employees about the importance of effective utilisation and conservation of the natural resources. The teams are motivated to implement “KAIZENS & KAIKAKUS” to optimise the consumption.

Followings are few examples :

Pollution abating Scrubber for Welding and PU Foaming Process

- 17 Air Changeover per hour
- 3 % reduction in CO₂ in air
- Improve ambient air quality



Acoustic enclosure for Power Generators

- To reduce noise level below 85 dB
- Clean and safe work environment

*5% reduction in Co2 and argon in air
Improved ambient air quality*



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 1 .President reviews the NCRs and corrective actions every month. Safety shield will be awarded to the best units based on the performance.

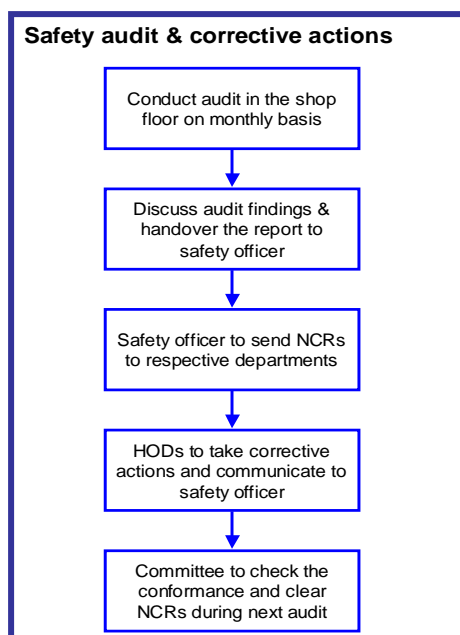


Fig 1

- Main initiatives – Clean & safe environment**
- Safety audit
 - Safety training
 - Testing of critical equipments
 - Contractors regulation
 - Pre-commissioning inspection
 - Motivation
 - Accident investigation
 - Fire safety
 - Communication
 - Work permit system
 - Electrical safety
 - Work place hygiene

Fig 2

The safety day is being celebrated every year during the first week of March. Safety Slogan, Posters, Suggestions and quiz are organized and the best performers are rewarded.

Chief guest Mr. Alagesan deputy chief inspector of factories, Hosur addressing the gathering on National safety day celebration the 05th March 2007 at Harita

