

TVS Srichakra Ltd (A Member of TVS Group)

TVS Srichakra is a member of TVS group, the largest auto ancillary group in India. TVS Srichakra, the no. 1 in Motorcycle tyres, is a leading manufacturer of Tyres and Tubes for Two & Three Wheelers in India and has a large programme of Off-the road tyres for the Export Market. TVS Srichakra has large share with the vehicle manufacturers, which include Bajaj Auto, Hero Honda, TVS Motors, Yamaha Motors, etc. TVS Srichakra has a significant presence in the After Market across the country and has carved out a fine reputation in service and support to the Dealers, Mechanics and Consumers.

Backed up by an excellent R&D, availing service of renowned technologists and test rider from Japan, TVS Srichakra brings out innovative patterns of their newer tyres including single radius / uni directional tyres for series of new vehicles being brought out.



Accredited in 1996 with ISO 9001 certification, TVS Tyres adopted strong quality standards from its inception and these benchmarks were further strengthened with the certification of ISO 14001, ISO 9001-2000 and TS 16949. The company has other practices like Six Sigma and Lean Manufacturing Techniques in place to abide by their high quality standards. TVS Tyres was also the winner of the prestigious TPM Excellence Award in 2003 and TPM Consistency Award in 2005.

TVS Srichakra, with their "Eurogrip" programme for overseas market on its off the road tyres has been expanding consistently over the years. TVS Srichakra a global player and has major OEM accounts in Europe, and exporting to over 50 countries in all the six continents. The wide range covers Pneumatic Tyres of Industrial, Skid Steer, Farm and Implement, Floation, Multipurpose, Vintage, Sand, Motorgrader, Compactor and for other Special Purpose.

Products / Services:

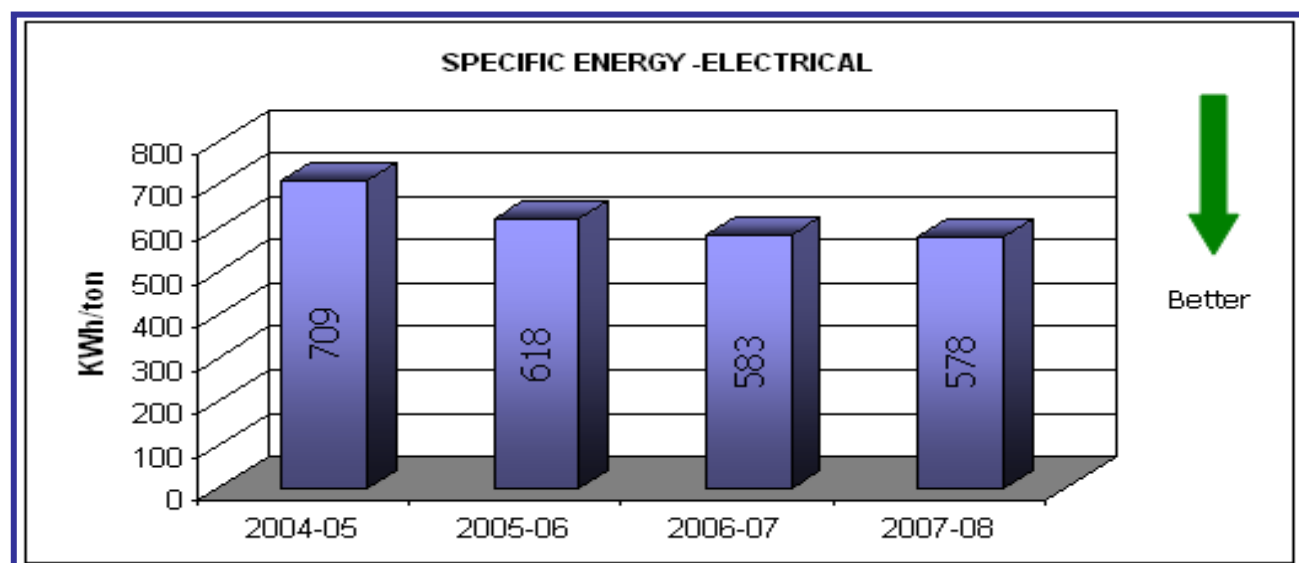
Tyres and tubes for Two and Three Wheelers. A wide range covering Industrial Forklift Tyres, Lawn & Garden Tyres, Agro Industrial Tyres, Farm & Implement Tyres, Multipurpose Tyres, Tractor Tyres, Floatation Tyres, Motor Grader Tyres, Sand Tyres, Vintage Tyres and Special Purpose Tyres.

Energy Consumption

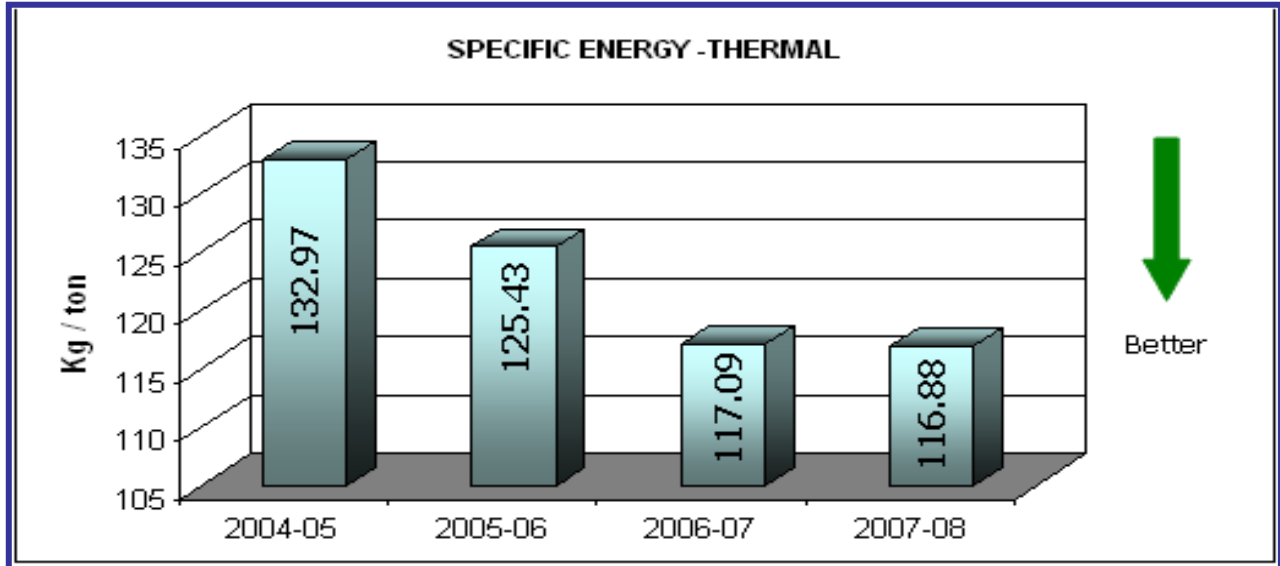
TVS Srichakra has implemented various energy conservation activities as a continuous practice. This reveals in the specific energy consumption trend. Last three years specific energy consumption details are shown below, which confirms our reduction trend in energy consumption figures due to the implementation of various energy conservation measures.

DESCRIPTION	UNIT	2005-06	2006-07	2007-08
Annual production	Tonne	28300	38662	40548
Total Electrical Energy consumption /annum	Lakhs KWh	174.81	225.4	234.37
Specific Energy consumption Electrical	Lakhs KWh/ tonne	0.00618	0.00583	0.00578
Total thermal Energy consumption /annum	Million Kcal	34328	43462	45495
Specific Energy consumption -Thermal	Million Kcal/tonne	1.213	1.124	1.122
Specific Energy Consumption – Electrical	Kwh / Ton	618	583	578
Specific Energy consumption -Thermal	Kg/ Ton	125.43	117.09	116.88

SPECIFIC ENERGY CONSUMPTION - ELECTRICAL



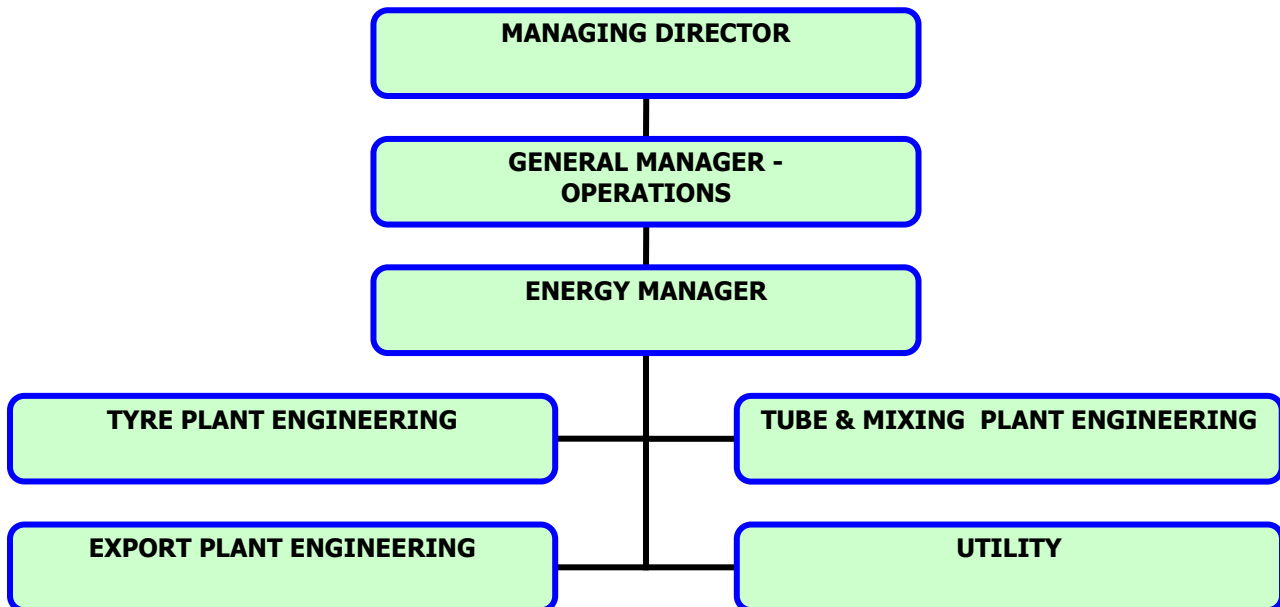
SPECIFIC ENERGY CONSUMPTION - THERMAL



Energy Conservation Commitment, Policy and Set up

- TSL is committed to total Energy Management and prevention of energy wastage.
- TSL insists for energy conservation features in the design stage itself.
- All employees were trained for their maximum knowledge to utilize the various energies in an economical way.
- Continuous monitoring of various energy consumption and continuous efforts to reduce the energy consumption from time to time
- Maintaining the implemented conservation measures at all times.

Energy Conservation Team Structure



ENERGY POLICY



TVS SRICHAKRA LIMITED
MADURAI



ENERGY POLICY

TVS Srichakra Limited itself committed and motivated towards Total Energy Management and prevention to energy Wastage through:

- * - Continuous implementation of energy efficient technologies for producing World Class Automobile Tires and Tubes with optimum specific energy consumption
- * - Continuous education & training to all employees for updating their Energy conservation awareness.
- * - Implement and practice Energy efficiency throughout the plant operation & its utility functions.
- * - Continuous monitoring and conduct of regular audits for conserving energy towards optimum.

APRIL 2007

ENERGY MANAGER

Energy Conservation Achievements

Year	Product	Kwh/Tonne	% Reduction over 2005-2006	Mkcal/Tonne	% Reduction over 2005-2006
2005-2006	Automobile Tyre & Tube	614	-	1.204	-
2006-2007	Automobile Tyre & Tube	583	5.05	1.124	6.64

Year	Product	Kwh/Tonne	% Reduction over 2006-2007	Mkcal/Tonne	% Reduction over 2006-2007
2006-2007	Automobile Tyre & Tube	583	-	1.124	-
2007-2008	Automobile Tyre & Tube	578	0.86	1.122	0.18

Major Projects implemented for Energy Conservation during 2007-08

Year	Project description	Achievement of energy savings per year basis						Investment incurred on the project (Rs.lakhs)
		Power (Lakhs in Rs.)	Fuels				Total (Rs.lakhs)	
			Fire wood (Tonne)	F.Oil (KL)	Husk (Tonne)	Total (fuel) in Mkkal		
2007-2008	Soft starter for feed water pump in CVL boiler	0.37	-	-	-	-	0.37	0.27
	Pressure switch to be provided in a dedicated compressor to avoid the running of the motor during unloading with VFD system	4.19	-	-	-	-	4.19	2.75
	Sohal Extruder main cooling conveyor dynodrive (7.5 HP) to remove and VFD with A.C motor	0.70	-	-	-	-	0.70	0.30
	48 " calender first pass winder dynodrive to VFD with AC motor	0.40	-	-	-	-	0.40	0.80
	Hot water filling pump 15 HP to 10 HP motor	0.31	-	-	-	-	0.31	0.35
	Air Pressure HP , LP separate pipe lines to be provided for tube plant	5.36	-	-	-	-	5.36	1.25
2007-2008	Day time lighting cut off system by implementing timers	0.31	-	-	-	-	0.31	0.10
	To replace with energy efficient motor for 1017 W & P banbury (600 HP motor)	7.40	-	-	-	-	7.40	14.00

	Optimization of compressors by PLC automation in Domestic tyre plant	12.00	-	-	-	1596	12.00	13.50
	Optimization of compressors by PLC automation in Export tyre and tube plant	8.57	-	-	-	239	8.57	13.50
	To replace with Energy efficient motor for 1019 mill (120 HP)	2.520	-	-	-	-	2.52	2.50
	To replace with Energy Efficient motor for 2001 Tube extruder	1.269	-	-	-	-	1.27	1.25
2007-2008	To replace with Energy Efficient motor for 1029 korean kneader mixer	2.52	-	-	-	-	2.52	1.50
	To replace with Energy Efficient motor for 1105 tread extruder	0.83	-	-	-	-	0.83	1.25
	To provide VFD unit to 1107 tread extruder	2.14	-	-	-	-	2.14	0.45
	Export truck press cold water pump VFD provision to run at 42 Hz for the required pressure of 20 Kg/cm2	2.94	-	-	-	-	2.94	0.85
	1690 Tyre Building m/c 30 HP replaced with 10 HP with dual speed arrangement	2.20	-	-	-	-	2.20	0.80
	Export plant Hot water generator 75 KW run with star delta starter method changed with VFD arrangement with pressure control loop by in built PID controlling system	11.02	-	-	-	-	11.02	3.50

2007- 08	Blower unit eliminated from the mixing motor by converting it to inbuilt fan type	2.13	-	-	-	-	2.13	0.00
	VFD unit to control the fan motor speed during day & night time based on the requirement	2.36	-	-	-	-	2.36	1.25
	Retrofitting/Minor Modifications of existing equipment – Low investment options (as per annexure - A)	5.74	-	-	-	-	5.74	2.15
	Substitution of coal/fuel oil/natural gas with agro-waste, bio-mass, other solid wastes, in boilers/furnaces for energy cost reduction (as per annexure - A)	-	-	-	-	-	7.12	0.40
	Reduction of rejects in the process which also leads to less consumption of power	43.05	-	-	-	-	43.05	0.00
	Furnace oil consumption reduction by planned maintenance of other solid fuel fired boilers	-	-	436	-	4186	84.71	0.00
Sub Total	118.3	0.0	436.0	0.0	6021.0	210.1	62.7	

Energy Conservation Plans and Targets – 2008-09

Energy Conservation Measures (Planned)	Annual Anticipated savings in		Approx. investment (Rs.lakhs)	Project Commencement & Completion year
	Energy Value (specify units) Kwh	Rs. Lakhs		
SHFE 5 HP Energy Efficient Motor	5250	0.22	0.16	2008-09
Energy Efficient pumps for Mill & Extruder	14000	0.59	0.50	2008-09
Energy Efficient motor for BHFE & SHFE cutter motor	7000	0.29	0.25	2008-09
Energy Efficient motor - 2 HP	5250	0.22	0.12	2008-09
Energy Efficient 5 HP motor for allwell bead winding cooling drum motor	5250	0.22	0.15	2008-09
energy efficient motor for 1101 extruder	87500	3.68	1.60	2008-09
energy efficient motor for ut calender warming mill-60 hp	89250	3.75	2.00	2008-09
Energy Efficient motor for 1043 slach kneader	84000	3.53	2.00	2008-09
Energy Efficient motor for 1044 slach kneader	84000	3.53	2.00	2008-09
1005 - 84 " mill - 300HP EEF motor with starter panel	192500	8.09	8.00	2008-09
Energy Effy.Motor for 1025 Mill	33600	1.41	1.10	2008-09
energy efficient pump for mill cooling water system	126000	5.29	2.75	2008-09
energy efficient pump for compressor cooling tower system	42000	1.76	1.35	2008-09

BHFE 50 HP VFD panel with line choke & 8 " pulley change in motor and also speed reduction by avoiding slip	10500	0.44	0.35	2008-09
1003 - 60 " mill VFD provision with current controlling system	105000	4.41	4.20	2008-09
cold water pump motor 30hp -10hp movigrom pump conversion (with PID controller and 20 HP stage pump provision)	63000	2.65	0.50	2008-09
Total		40.07	27.03	

Environment and Safety

The unit is committed to preserve its environment and safety of its employees. Following major improvements have been carried out

a) Water Effluent

The sewage from toilets and canteen are led into the full sledged sewage treatment plant. The outlet of sewage treatment plant is used for inplant gardening purpose. The boiler blow down and regeneration from DM plant is led into the effluent treatment plant comprising of 2 stage RO plant with mechanical evaporator and the permeate is re-used as boiler feed water

Capacity of sewage treatment plant is 250 KL per day and

Capacity of effluent treatment plant is 40 KL per day

Capacity of new sewage treatment plant is 50 KL per day

The parameter of treated effluent is within the prescribed norms of TNPCB



b) Air

Regarding control of air pollution the company has installed dust collectors in Mixing units. For boilers, the industry has provided a stack of 31.5 mtrs height. The company is monthly monitoring the air polluting parameters of stack and also the ambient air quality surrounding the industry.

A detailed AAQ survey is conducted by TNPCB and the results are within the prescribed norms of TNPCB

c) Solid waste

Sludge generated from effluent treatment plant is disposed into newly provided secured landfill system inside our factory premises

Rice Husk which is used in our 10TPH CVL boiler, the ash collected after combustion is disposed to local farmers at free of cost for cultivation purpose on daily basis.

Cut Tyre waste has been sold to the vendors by tender basis.

d) Corporate Social Responsibility

We, TVS Srichakra Limited committed to the society of Y.Othakkadai a panchayat union located 10 kms from the factory premises that all the solid waste generated will be collected on daily basis door by door in a common place and it will be segregated (biodegradable and nonbiodegradable) and subjected to vermi composting and the end waste is utilized for agro purpose .



The company has planted around 400 trees both inside and in nearby villages.

TVS Srichakra Limited has got ISO 14001 certification and committed to follow all the guidelines as per ISO standards