

# **TVS SRICHAKRA LIMITED**

## **Vellaripatti, Madurai (Tamil Nadu)**

### ***Unit Profile***

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, Floatation, 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.

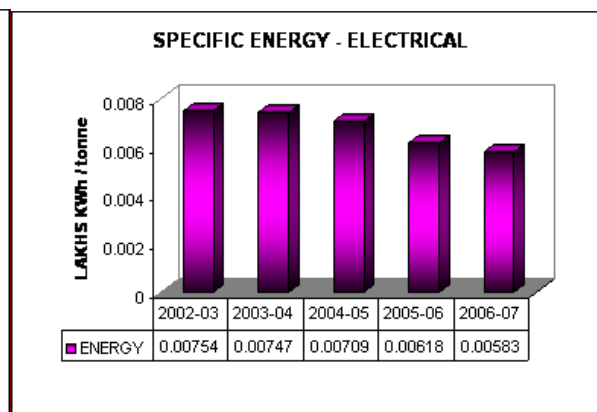
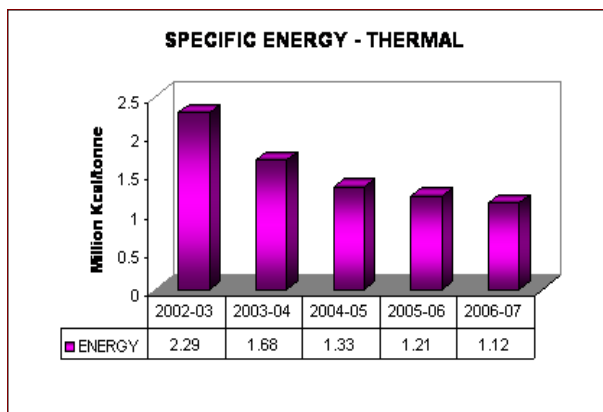
**Energy Consumption**

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	2004-05	2005-06	2006-07
Annual production	Tonne	20229	28300	38662
Total Electrical Energy consumption /annum	Lakhs kWh	143.43	174.81	225.4
Specific Energy consumption Electrical	Lakhs kWh/ tonne	0.00709	0.00618	0.00583
Total thermal Energy consumption /annum	Million Kcal	26816	34328	43462
Specific Energy consumption -Thermal	Million Kcal/tonne	1.326	1.213	1.124

**SPECIFIC POWER CONSUMPTION**

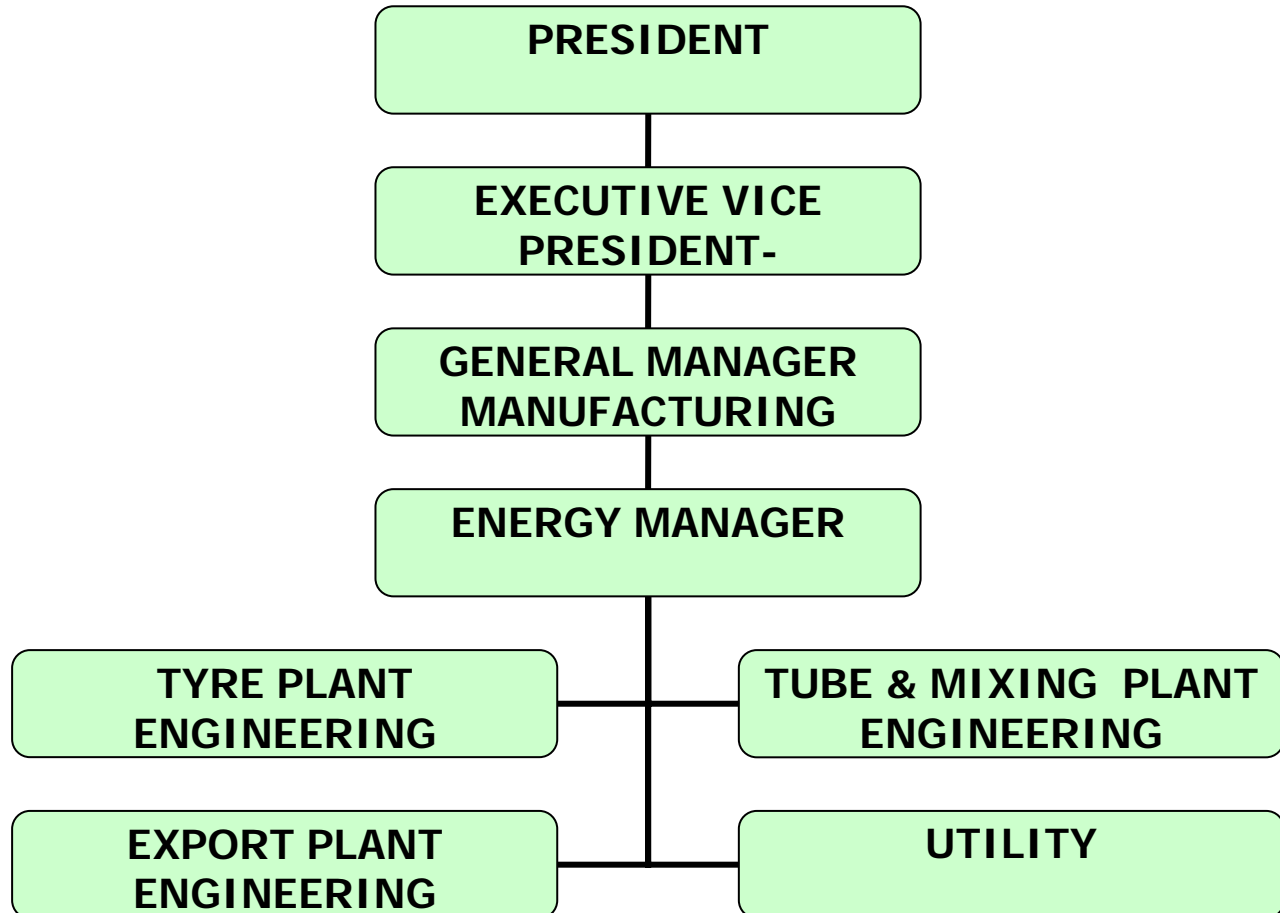
**SPECIFIC THERMAL ENERGY CONSUMPTION**



### ***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 2006

ENERGY MANAGER

### *Energy Conservation Achievements*

Year	Product	Kwh/Tonne	% Reduction over 2004-2006	Mkcal/Tonne	% Reduction over 2004-2006
2004-2005	Automobile Tyre & Tube	709	-	1.326	-
2005-2006	Automobile Tyre & Tube	614	13	1.204	9

Year	Product	Kwh/Tonne	% Reduction over 2005-2007	Mkcal/Tonne	% Reduction over 2005-2007

2005-2006	Automobile Tyre & Tube	614	-	1.204	-
2006-2007	Automobile Tyre & Tube	583	5	1.124	7

### Major Projects implemented for Energy Conservation during 2006-07

iv) Energy conservation Achievement:

Before

**1) Wood boiler Installed for the increased production capacity**

**STATUS :**

\* Furnace oil boiler run for the production output

**OBSERVATIONS:**

\* High Thermal energy cost

Now

**ACTION TAKEN :**

\* MIRCO make boiler installed with firewood as fuel in place of furnace oil boiler tyre plant efficient boiler

**PAYBACK :**

Annual saving : Rs. 64.42 lakhs  
Investment : Rs.41.10 lakhs  
Payback : 2 months



**2) Installation of screw compressor**

Before

**STATUS :**

\* Reciprocating compressors running in the plant

**OBSERVATIONS:**

\* Efficiency is low due to long service and wear & tear

**ACTION TAKEN :**

\* Screw compressor installed . Noiseless operation, oil leak free and efficiency is good

**PAYBACK :**

Annual saving : Rs.7.25 lakhs  
Investment : Rs. 16.50 lakhs  
Payback : 3 months

Now



### 3) Condensate Recovery System

Before

Not available

STATUS :

\* Condensate Recovery system installed in export plant for fire wood boiler

OBSERVATIONS:

\* Feed water temperature increased from 65 deg to 90 deg

Now

ACTION TAKEN :

\* Ogden pump installed

PAYBACK :

Annual saving : Rs. 13.52 lakhs

Investment : Rs.0.12 lakhs

Payback : 1 day



### 4) Conversion of Fixed Power to Variable power by providing VFD 's:

Before

STATUS : Mirco boiler ID,FD , FW pumps - 2 nos are provided with conventional starters.

OBSERVATIONS:

\* Motor running with full speed all the time which results in energy loss

ACTION TAKEN :

\* Suitable rating VFD installed with proper feed back

PAYBACK :

Annual saving : Rs.17.29 lakhs

Investment : Rs.9 lakhs

Payback : 1.5 years

Now



### **Energy Conservation Plans and Targets**

Energy Conservation Measures (Planned)	Anticipated savings in Energy		Approx investment (Rs.lakhs)	Project commencement & completion year
	Energy value (units/year)	Rs.lakhs		
Sohal Extruder Main Cooling Conveyor Dynodrive (7.5HP) to remove and VFD with A.C. Motor (5HP) to be installed	16376	73692	0.4	2007-08
48" Calender First pass winder dynodrive to VFD with A.C drive motor	9256	41652	0.45	2007-08
H.W Filling Pump 15HP to 10HP Motor	7120	32040	0.35	2007-08
Air pressure HP, LP separate pipe lines to be provided for Tube Plant	71200	320400	0.9	2007-08
Separate pipe line for high pressure line for 8 kgs PSI in Export plant	35600	160200	0.75	2007-08
VFD unit to control the fan motor speed during day & night time based on the requirement in all the cooling towers.	56960	256320	6	2007-08
Day time lighting cut-off system by implementing timers.	7120	32040	0.25	2007-08
To replace with Energy Efficient motor for 1103 IPCF Extruder	58740	264330	1.5	2007-08
optimization of compressed air unit to be fixed in Tube & Mixing plant and at tyre plant	391600	1762200	30	2007-08

Energy Conservation Measures (Planned)	Anticipated savings in Energy		Approx investment (Rs.lakhs)	Project commencement & completion year
	Energy value (units/year)	Rs.lakhs		
To replace with Energy Efficient motor for 1017 W & P banbury	154504	695268	15	2007-08
To replace with Energy Efficient motor for 1032 Korean Kneader mixer.	69420	312390	4	2007-08
To replace with Energy Efficient motor for 1018 Mill	83304	374868	3	2007-08
By providing booster transformer in HTSC 75 (Unit - II)	153792	692064	8	2007-08
By providing booster transformer in HTSC 126 (Unit - III)	205056	922752	10	2007-08
To replace with Energy Efficient motor for 2001 Tube Extruder	29548	132966	1.5	2007-08
To replace with Energy Efficient motor for 1010 GDR banbury	125312	563904	10	2007-08
To replace with Energy Efficient motor for 1029 Korean Kneader mixer.	58740	264330	3	2007-08
To replace with Energy Efficient motor for 1019 Mill	51620	232290	3	2007-08
To replace with Energy Efficient motor for 1105 Tread Extruder	19224	86508	1.5	2007-08

<b>Total</b>	<b>16.04 lakh kWh</b>	<b>72.20 lakhs</b>	<b>99.6 lakhs</b>
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## ***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

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) General**

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