

**Rane (Madras) Ltd
Plant – I
Velachery - Chennai**

Company Profile

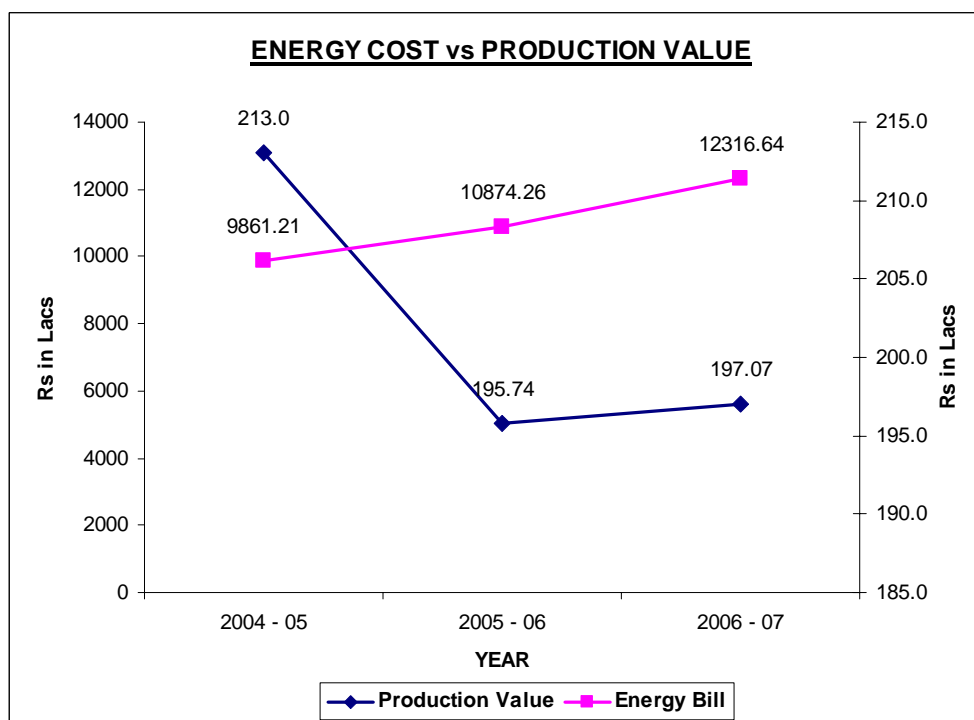
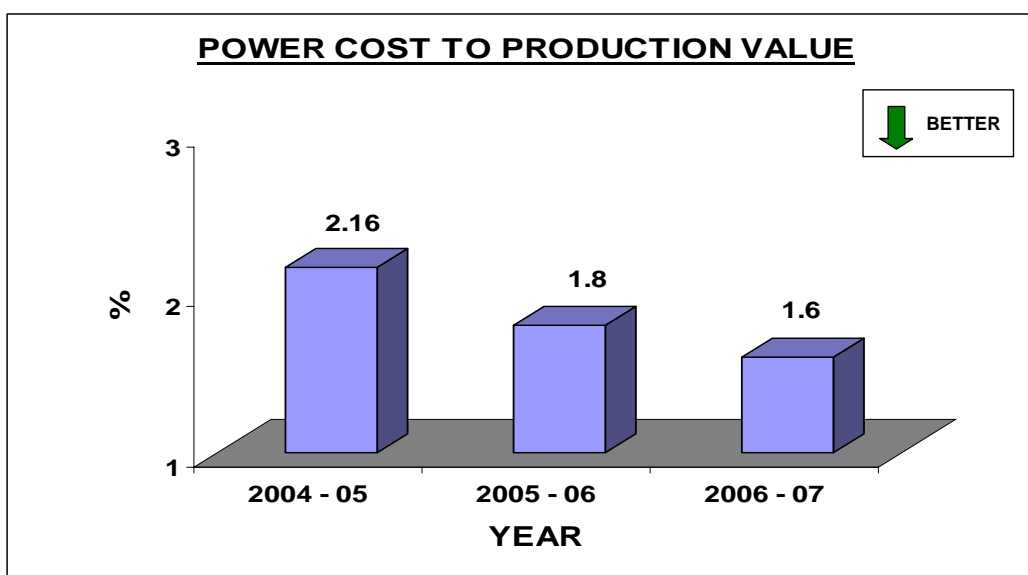
Rane (Madras) Limited (RML) is one of the Pioneer in Automobile sector business. RML Velachery plant is one of the plant among the 5 plants in India, located in Velachery - Chennai. RML was established in the year 1929. The products of RML are Steering Gears & Steering suspension Link products. The total production per annum is 1.58 Lacs Steering Gears & 25.94 Lacs suspension link products. The main OE Customers are TATA, Ashok Leyland, Mahindra & Mahindra, and Escorts etc. For the year 2006 – 07 Velachery plant sales turnover was Rs 119.98 Crores.



Energy Consumption

Energy conservation activity has been embedded in our DRM practices for the past three years. Target has been set for Energy cost reduction, various Energy conservation projects identified, Implemented & reviewed every year. The outcome of the projects resulted in reduction of energy consumption over the last two years. The Energy consumption figures of Last three years are given below.


DESCRIPTION	UNIT	2004 - 05	2005 - 06	2006 - 07
Electrical Energy (Consumed)	KWH in Lacs	59.03	55.63	57.09
Production Value	Rs in Lacs	9861.21	10874.26	12316.64
Energy Bill	Rs in Lacs	213.0	195.74	197.07
Savings in Energy cost	Rs in Lacs	33.5	39.14	24.63
Savings in Energy cost	%	15.7	20.0	12.5
Power cost to Production value	%	2.16	1.8	1.6



Energy Conservation Commitment, Policy & Setup

Rane (Madras) Ltd initiated Energy Conservation activities as an additional activity. Since, our organization initiated TQM in the year 2002, we have been committed to implement successfully. The team is led by Plant Head constituting an Energy cell. The committee meets periodically to review the implementation status of projects & newly identified energy saving schemes.

Energy Management Policy

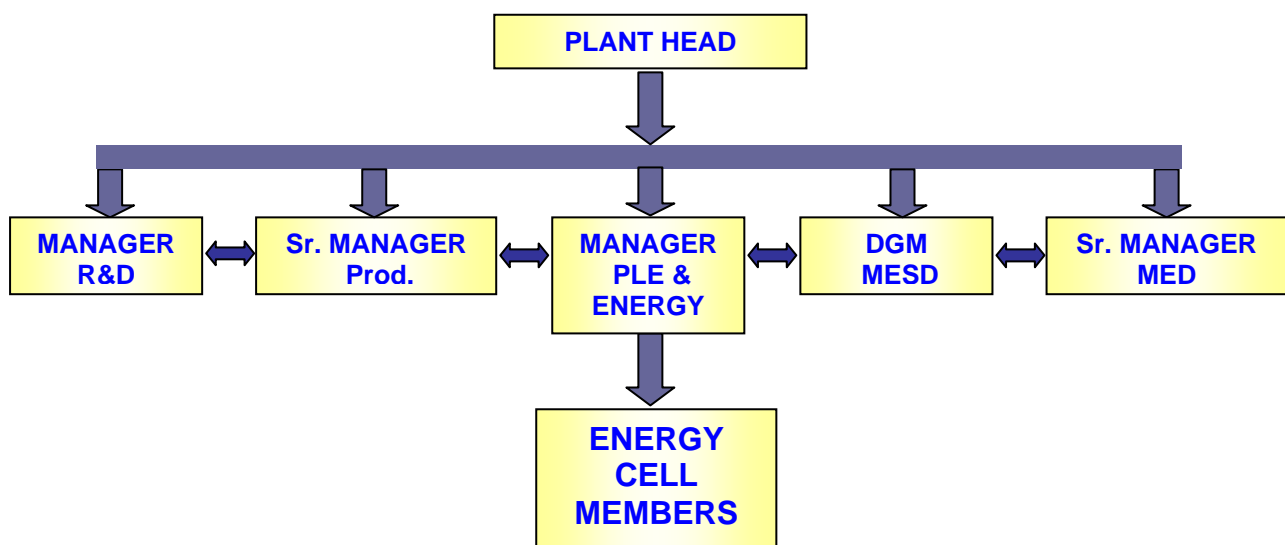


ENERGY POLICY

RML IS COMMITTED TO USE ENERGY IN THE MOST EFFICIENT, COST EFFECTIVE AND ENVIRONMENTALLY RESPONSIBLE MANNER . TOWARDS THIS END, RML SHALL ENSURE EFFECTIVE ENERGY MANAGEMENT PROGRAMS WHICH INCLUDE:

1. CONTINUOUS ENERGY REDUCTION PROGRAMS
2. IDENTIFYING AND IMPLEMENTING USAGE OF NATURALLY AVAILABLE ENERGY LIKE SUNLIGHT, WIND AND GRAVITY
3. EVALUATE ALL IT'S PROJECTS IN TERMS OF ENERGY EFFICIENCY.

Energy Conservation Team structure



Energy Conservation Achievements

In the Year 2006 – 07, 7 varieties of projects were identified by our Energy team. And successfully completed all the identified projects and saved **Rs 24.63** Lacs in the Energy bill.

Power cost to production value achieved from 1.80% to 1.60% as against the target of 1.67%.

Target setting for Power cost to Production Value 2006-2007

Last year Actual	1.8 %
Reduction Planned	7.5 %
Current year target	1.67 %
Reduction in Power cost to Production value	0.13 %
Operating Plan for the year 2006 - 2007	10986 Lacs
Reduction in power cost planned	14.3 Lacs

Major Projects Implemented in the Year 2006 – 07 are

1. Migrating from Reciprocating to Screw Compressor



Project details:

2 Nos of 55Kw reciprocating compressors with Desiccant drier is replaced by 2 nos of 30Kw Screw compressor with refrigerant drier.

Savings / month : 11518KWH

Savings from : June 2006

Savings done in 2006-07 : Rs 4.84 Lacs

2. New Energy Efficient machines Procurement



Project details:

Operations carried out in 3 Nos (4.5 KW)
Drilling machines (70 nos /shift by 3 operators)
is replaced by Single 7.5KW CNC drill Tap
centre (95 nos /shift by one operator).

Savings / month	: 3075 KWH
Savings from	: Apr 2006
Savings done in 2006-07	: Rs 1.29 Lacs



Project details:

50% Efficient Valve type R.F Induction Heater
replaced by 95% Efficient IGBT type M.F
Induction Heater.

Savings / month	: 10834 KWH
Savings from	: Apr 2006
Savings done in 2006-07	: Rs 4.55 Lacs

3. Machine Up-gradation



Project details:

Heavy duty Hydro-copy lathe is converted into
CNC lathe with VFD driven main spindle

Savings / month	: 3295 KWH
Savings from	: Aug 2006
Savings done in 2006-07	: Rs 92267

4. Process Improvement



Project details:

Before: Operations carried out in 'T' pilot (20KW) & Centreless grinder (30KW) by 2 operators

After: Above Operations are integrated in a single Ball turning & Burnishing machine (7.5KW)

Savings / month	: 7792 KWH
Savings from	: June 2006
Savings done in 2006-07	: Rs 2.77 Lacs

5. Furnace Re-insulation



Project details:

Reduction of Thermal Loss in Gas carburising Furnace by Re-insulating the lining.

Savings / month	: 2366 KWH
Savings from	: April 2006
Savings done in 2006-07	: Rs 0.95 Lacs

Energy Conservation Plan and Targets

SL.NO	MACHINE NO & DESCRIPTION	METHOD	SAVINGS (In Lakhs KWH)	SAVINGS (Rs in Lakhs)	INVESTMENT (Rs in Lakhs)
1	SCREW COMPRESSOR	2 NOS OF RECIPROCATING COMPRESSORS (Each 55 KW) REPLACED BY 2 NOS OF(Each 30 KW) SCREW COMPRESSORS.	1.39	4.87	8.00
2	VTP10 CNC DRILL TAP CENTRE	3 NOS OF DRILLING MACHINE REPLACED BY SINGLE DRILL TAP CENTRE - FOR CAPACITY INCREASE	0.37	1.29	Nil
3	VIH11 - INDUCTION HEATER	BY REPLACING VALVE TYPE INDUCTION HEATER BY NEW GENERATION IGBT TYPE - FOR CAPACITY INCREASE	1.30	4.55	Nil
4	VMC09 MACHINING CENTRE	HIGH PRODUCTIVE MACHINES IN LIEU OF LESS EFFICIENT MACHINES - FOR CAPACITY INCREASE	0.52	1.83	Nil
5	VTB03 - BALL TURNING & BURNISHING	PROCESS IMPROVEMENT - FOR CAPACITY INCREASE	0.79	2.77	Nil
6	GAS CARBOURISING FURNACE GCF 4	FURNACE REINSULATION	0.27	0.95	1.00
7	VCP02 - S PILOT	MACHINE UPGRADATION BY CNC CONTROL - FOR CAPACITY INCREASE	0.26	0.92	Nil
8	NON CONVENTIONAL ENERGY SAVING	SAVINGS THROUGH WINDMILL, WIND VENTILATORS, GRAVITY CHUTE ETC	-	7.11	Nil
9	LIGHTING IMPROVEMENTS	BY REPLACING ORDINARY CHOKES TO ELECTRONIC, 100W MACHINE LAMP BY 11W CFL	0.10	0.34	0.65
TOTAL			5.00	24.63	9.65

Energy Conservation Target for the Year 2006 – 2007 is Rs 14.3 Lacs

SL. No.	Non-Conventional Methods	Quantity	Power (in Kw)	Duty cycle (in Hrs)	Savings (Rs in Lacs)
1	Wind mill Generation	1	-	24	1.41
2	Wind Ventilators	42	0.15	24	1.40
3	Cooling Towers (By Natural Draft Cooling)	1	1.32	18	0.22
4	Natural Light roofing Sheets	35	1.44	8	3.73
5	Gravity Chute (For Component Movement)	26	0.19	8	0.36
Total					7.11
Total Savings by Non Conventional methods is Rs 7.11 Lacs					

Environment and Safety

RML Plant – I is an ISO 14001 & OHSAS certified company. We are committed to abide the rules & regulations and follow ISO standards.

Effluent Treatment Plant

We have installed a 80 KLD packaged type effluent treatment plant. Effluent from various areas of the plant is led to the common treatment plant. The treated water is being utilized for gardening purpose & also it is fed to Fish aquarium tank. The aliveness of Fish directly implies the quality of the treatment done. The quality of treatment required for fish is more stringent than the TNPCB requirements.

Treatment plant quality confirms to TNPCB requirements.

Shop floor Environment

In the machines where there is fume development are fitted with fume extraction unit and the let out after proper filtration. Especially the oil fumes are sucked by individual fume extraction units & oil in the fumes are extracted. The extracted oil is reused for the same purpose.



AIR

Atmosphere around the plant is monitored for air quality continuously.

Safety

Sharp bend areas inside the plant are fitted with Convex lens to ensure safe driving or movement.
