



## **GOKUL MILK PROJECT**

### **Unit Profile :**

The Kolhapur Zilla Sahakari Dudh Utp. Sangh Ltd., Kolhapur, formerly known as “Gokul” was established on 16.03.1963. Adoption of new technology, quality policy proper blend of producers, management & consumer could result in becoming “Gokul” a strong bridge of faith & satisfaction between milk producers & customers, which was the purpose of its establishment. As on today “Gokul” is the leader in the market & has established many landmarks breaking of its own previous records. As a result Gokul is awarded with 13 National Productivity Council awards. As on date, the average milk collection of the year is 5.33 lakh LPD with peak of 6.39 lakh LPD. in 2006-07 Gokul has supported to producers by all technical input services like animal health care, feed & fodder supply animal breeding facility with all necessary training in its own training center. The producers through their village co-op. dairy society get proper input services & financial assistance.

Since the Anand pattern contemplates integrated approach of Dairy Development, Gokul has also strengthened its Animal Husbandry, Artificial Insemination, Feed and Fodder Development activities. These services are undertaken for increasing per animal production as well total milk production. The A.H. coverage of the Gokul is one of the best in the country. As on date March 07, the entire cattle population of the district is covered through 35 A.H. Centers manned by 60 Veterinarians, who provide round the clock Veterinary services. At the same time, being the farmers cooperative, the entire expenditure on AH/AI activities are heavily subsidized.

**More than Rs.43.00 Crores have been paid as ‘extra price’ during 2006-07, than the price declared by the Govt.** The input services are either free or at subsidized rate are the additional benefit to the producer. Till date, to maintain quality, 4200 milko testers, 75 fattomatic machines, approx. 728 computers along with manpower training facility for scientific organization culture, mission, vision & values, have been provided to the primary cooperatives.

This organization is based on quality production & rendering services to milk producers as well as assured & quality milk supply to the customers at reasonable rate. The mission is aimed at quality based remunerative price to the milk producer with all technical inputs services for production enhancement & training.





### **A] Future Strategies :**

To accept the challenges arose due to Globalization, we have equipped ourselves by maintaining quality, scientific approach & advanced technology & trained devoted manpower. In near future we have planned & the work is in progress for –

- Expansion of cattle feed plant from 200 MT to 500 MT.
- New product launch like Dahi, Desert etc
- Liquid milk availability to all parts of Maharashtra.
- Renovation of Marketing chain, strategy & required materials like booths, refrigerated vans etc.
- Creation of awareness amongst customers regarding quality milk production knowledge.
- Installation of Bulk Milk Coolers in village dairy co-op societies under GMP Programme.

Now Gokul has accredited with ISO 9001-2000, HACCP 15000-1998 & EIC Licenses. Gokul is well equipped with 7 lakh LPD capacity dairy plant, (40 MTPD Milk Powder Plant, Butter, Table butter, Powder, Shrikhand, Lassi, Paneer, Curd

making facility) and is now serving to more than 5,00,000 producers & same No. of consumers who are working for their mutual benefits.

We have launched ambitious “**Gokul Gram Vikas Yojana**”. This is unique & is an integrated approach for the rural development- socio economically, in which villagers plan for their own village on short term & long term basis where the field Extension worker assist them. He is being designated as “Gokul Doot”. The plans are executed, monitored & evaluated by the villagers themselves.

Name of Product	Units	Production in 2006-07
Milk [Processed]	MT	253464
Skimm Milk Powder.	MT	2696
Ghee	MT	392
Butter	MT	2668
Table Butter	MT	702
Shrikhand	MT	85
Lassi	KL	25
Paneer	MT	12
Curd	MT	23

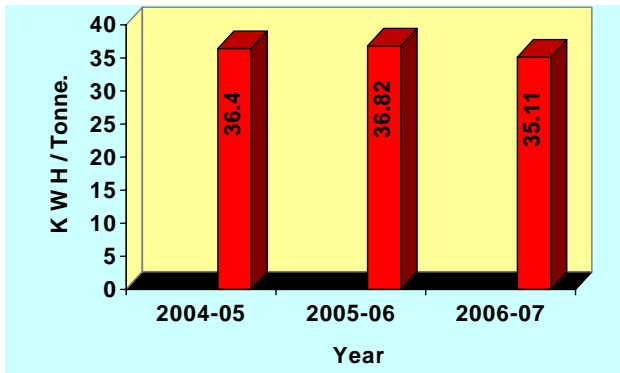


## Energy Consumption

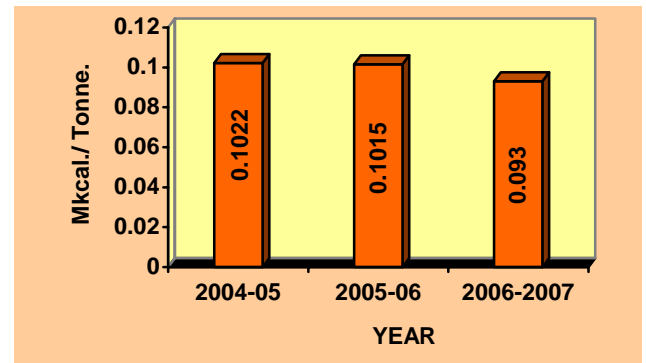
The energy consumption and milk handled at the dairy in the years 2004-2005 ,2005-2006 & 2006-2007 is as follows .

DESCRIPTION	UNIT	2004-2005	2005-2006	2006-2007
Milk Handled	Metric Tonnes	229701	238004	253464
Total Energy Cost	Rs. in Lakhs	640	887	928
Energy cost as % of manufacturing cost	Percent	29.78	32.90	48.12
Total energy consumption - Electrical	Lakhs KWH	83.62	87.65	89.00
Specific energy consumption Electrical	KWH/Tonne	36.40	36.82	35.11
Total energy consumption Thermal	Million Kcal.	23479	24157	23679
Specific energy consumption Thermal	Million Kcal/Tonne	0.1022	0.1015	0.0930
Percentage of electrical energy consumed in the plant	%	99.99	99.98	99.99
Percentage of thermal energy consumed in the plant	%	99.98	99.99	99.54

Year	Installed Capacity M.T.	Milk Handled M.T	Capacity Utilization %
2004-2005	263165	229701	87.28
2005-2006	263165	238004	90.44
2006-2007	263165	253464	96.31

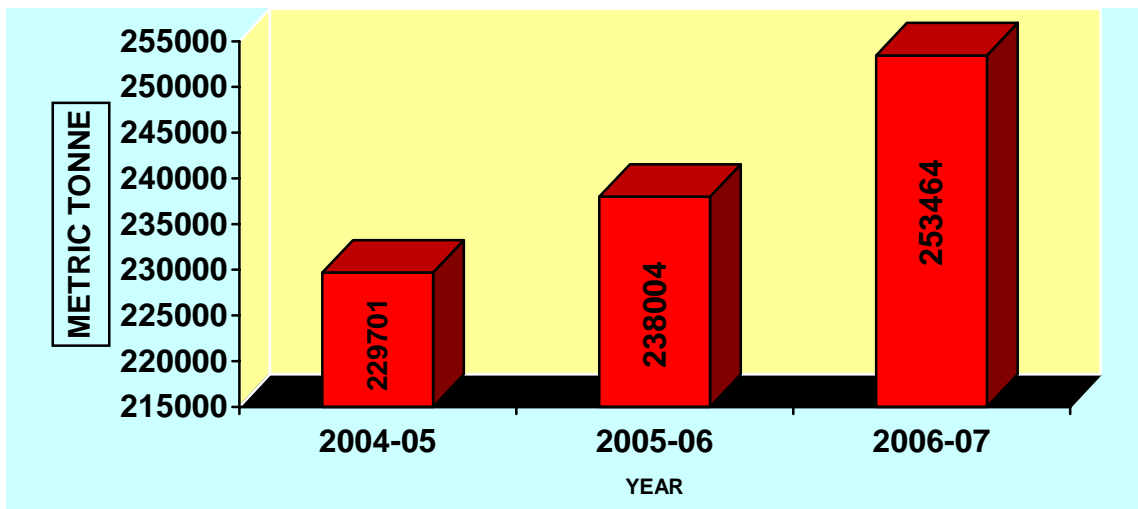


**Specific Energy Consumption -Electrical  
Kwh / Tonne.**

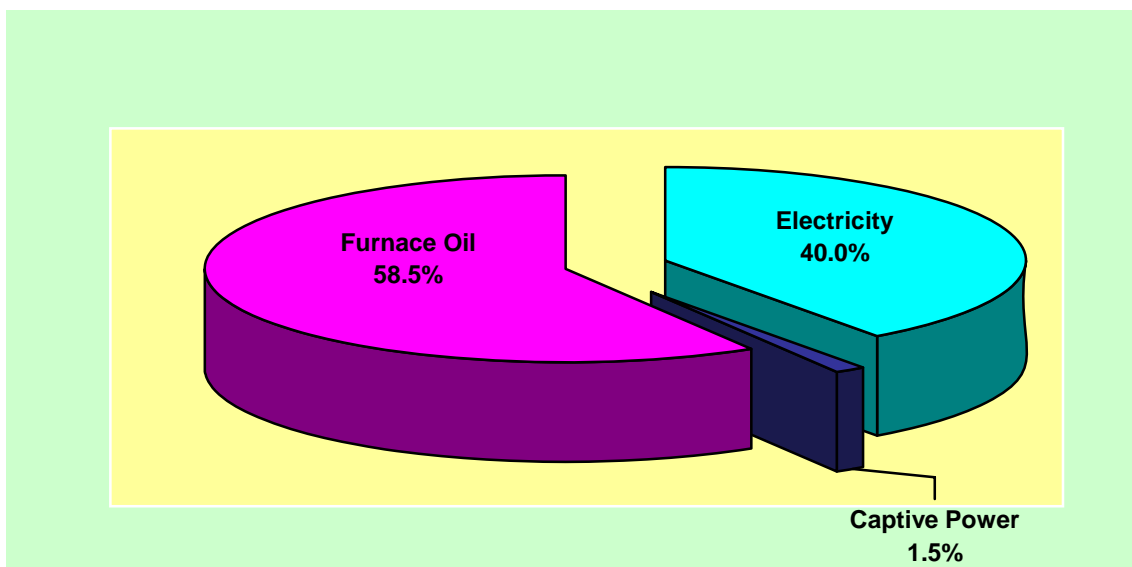


**Specific Energy Consumption – Thermal  
Mkcal /Tonne**

**Milk Handled :**



**ENERGY COST : 2006- 07**



Achievement of Energy Saving : 2004-05.

Year of Commissioning The Project.	Project Description	Achievement of energy saving per year basis				Investment incurred on the project RsLakh
		Electricity	Fuels		Total saving in (Rs.Lakh)	
		[Lakhs kwh ]	F.oil KL	Total (Fuel in MKcal		
2004-05	1) At gate area 125watt of 3Nos. M.V. lamps are replaced by energy saver CFL 22watt of 3Nos. fitting.	0.0146	-	-	0.051	0.005
	2)150watt of 8Nos. spot light in board room & 150watt of 10Nos. in passage are replaced energy saver CFL 11watt .	0.0638	--	----	0.222	0.0198
	3)At new chilling milk silo agitator motors were in delta,now connected in star connection.	0.38	---	----	1.53	NIL
	4)At 30TPD powder plant,silo agitator motors 7.5H.P. of two nos. were connected in delta,now connected star connection.	0.065	---	----	0.23	NIL
	5}Power Factor Maintained at Unity.	---	---	---	12.06	0.6
	<b>TOTAL</b>	<b>0.5234</b>	<b>---</b>	<b>---</b>	<b>14.093</b>	<b>0.62</b>

## Achievement of Energy Saving : 2005-06.

Year of Commissioning The Project.	Project Description	Achievement of energy saving per year basis				Investment incurred on the project RsLakh
		Electricity	Fuels		Total saving in (Rs.Lakh)	
		[Lakhs kwh ]	F.oil KL	Total (Fuel in MKcal		
2005-06	1)Three nos.pasteurizers milk pumps replaced from 7.5 hp to 5 hp.	0.3	----	----	1.10	0.60
	2) Hot condensate recovery at 50 °C of 30 TPD power plant. – The condensate from an evaporation plant of 30 TPD & 10 TPD powder Plant is collected & used as feed water to boiler, can washers.	---	54.53	520	9.61	19.48
	3) At chilling & process area, 25 double tube fittings having 40 watt copper choke replaced by energy saver electronic choke(50 nos.) Hence saving 10 watt per choke.	0.0365	---	---	0.127	0.08
	4) Voltage stabilizer connected for milk filling machines for constant voltage .Due to maintaining constant voltage ,current fluctuation on higher side is reduced.	0.037	---	---	0.13	0.6
	5)Power factor maintained at unity ,hence incentive given by MSEB.	---	---	---	12.80	Nil
	6) By fixing pvc strip Curtains to deep freeze ,milk cold room ,butter cold room & anti room door to avoid loss of temperature.	0.37	---	---	1.33	0.75
	<b>TOTAL</b>	<b>1.072</b>	<b>54.536</b>	<b>520</b>	<b>25.097</b>	<b>21.51</b>

## Energy Conservation Achievements (2006-2007)

During the period between 2006-2007 “GOKUL” has implemented following proposals resulting to saving in electrical energy as well as thermal energy.

1) Installation of energy efficient pasteurizer with 93% regeneration efficiency by replacing old pasteurizer having regeneration efficiency 90%

Furnace oil saved per year = 20,192kg/annum

Saving of f.o.= 194.85Mkcal/annum.

Investment – Rs.12.00 Lakhs.

Saving in Rs.4.44 Lakhs/annum.



Energy Efficient Pasteurizer

2) One no of Cooling water pump(15hp) is removed by pipeline modification in 30 TPD s powder plant.



Saving in units = 21,600 kwh/annum

Saving in Rs.= 0.77 Lakhs/annum.

Investment in Rs.0.1 lakh.



Cooling water pumps

3) Voltage stabilizer for new lighting panel.

Without stabilizer kwh consumption = 265 kwh/day.

With stabilizer kwh consumption = 250 kwh/day.

Consumption saving = 15 kwh/day.

Annual Saving = 15 kwh × 365 days.

Annul saving = 5475 × 4.50

= Rs 0.2464 Lakhs

Investment = Rs 1.33 Lakhs



Voltage Stabilizer

**4) Replacement of 250 watt SVL (15 nos) by Energy saver 120 watt street light fitting.**



**Old SVL fitting (250 watt) fitting(120watt)**



**sssNew energy saver**

120 watt SVL fitting consumption =  $250 \times 15 \times 12$   
= 45 kwh / day.

120 watt energy saver consumption =  $120 \times 15 \times 12$   
= 22 kwh / day.

Kwh saving / annum = 8395 kwh

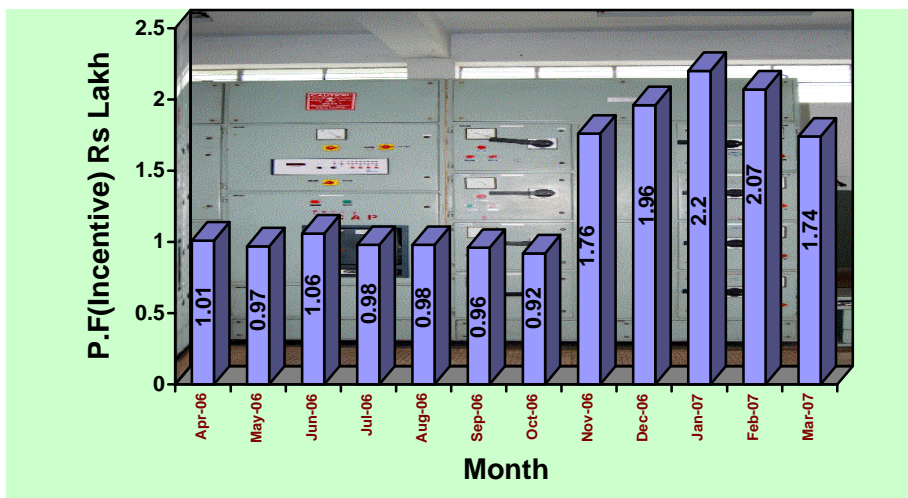
Annual saving = Rs 0.38 Lakh / annum.

Investment = Rs 0.81 Lakhs

**5) Power factor maintained at unity.**

Hence we have achieved total saving Rs.16.66 Lakhs / annum.

Investment = Nil.



**APFC Panel**

## ENERGY CONSERVATION PLANS & TARGET:

Energy conservation Measures (planned)	Anticipated savings in		Approximat investment (Rs.Lakhs)	Project Commencement& Completion year
	A) Energy value	Rs.in Lakhs		
Installation of multifuel boiler.	10736.8 Mkcal	200	100	2008
Installation of mechanical type milk pouch packing machines	68437kwh	2.50	50	2007
Installation of hot water generator	2684.2 Mkcal	50	7.5	2008
Voltage stabilizer to be connected for old lighting panel for stabilized output.	9125 kwh	0.41	1.0	2008
By using electronic choke instead of copper choke in all sections i.e.for 1200Nos. tubes.	109500kwh	3.83	2.64	2008
Replacement of 250watt SVL of 35 Nos. by energy saver street light fittings i.e.120watt CFL.	20,000kwh	0.9	2.0	2008
Fanless induced draft cooling tower in refrigeration section.	525600kwh	18.92	12.00	2008
Replacement of copper choke tube fittings by electronic choke energy saver tube fitting in store department.	1949 kwh	0.0877	0.29	2008
Condensate recovery from three circuit CIP system.	183 Mkcal	3.75	0.15	2007
Condensate recovery from milk pasteurizers & Cream pasteurizers.	216 Mkcal	4.92	0.10	2008

### Safety:

We have formed safety committee for safety awareness, monitoring & measurement. Health check-ups of all employees are conducted regularly. We have conducted safety audit, hazzop & Risk assessment.

### Environment:

We are having 1400cu.m./day capacity effluent treatment plant, the treated water of which is used for gardening purpose. Environmental audits through certifying agencies were conducted & various environmental initiatives including environmental monitoring were implemented to maintain the ecological balance in & around the

company premises. The requirements relating to various environmental legislations & environment protection were duly complied by the Company.