



# PRESENTATION

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# GOKUL PLANT





# Unit Profile

**Heritage Foods (India) Limited** founded in 1992 by **Sri Nara Chandra Babu Naidu**, is one of the Fastest growing enterprises in Dairy Industry in South India. The Main Dairy Plant, Gokul was commissioned in 1996 with a rated capacity of 1.5 LLPD and was subsequently expanded to 2.5 LLPD in 2007.

Presently, Heritage Milk and Milk products have prominent market presence in Andhra Pradesh, Karnataka, Kerala, Tamilanau and Maharashtra.

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# Energy Consumption



There has been a steady increase in the milk handled and decrease in the energy consumption since the establishment of Energy Management policy implementation in 2007.

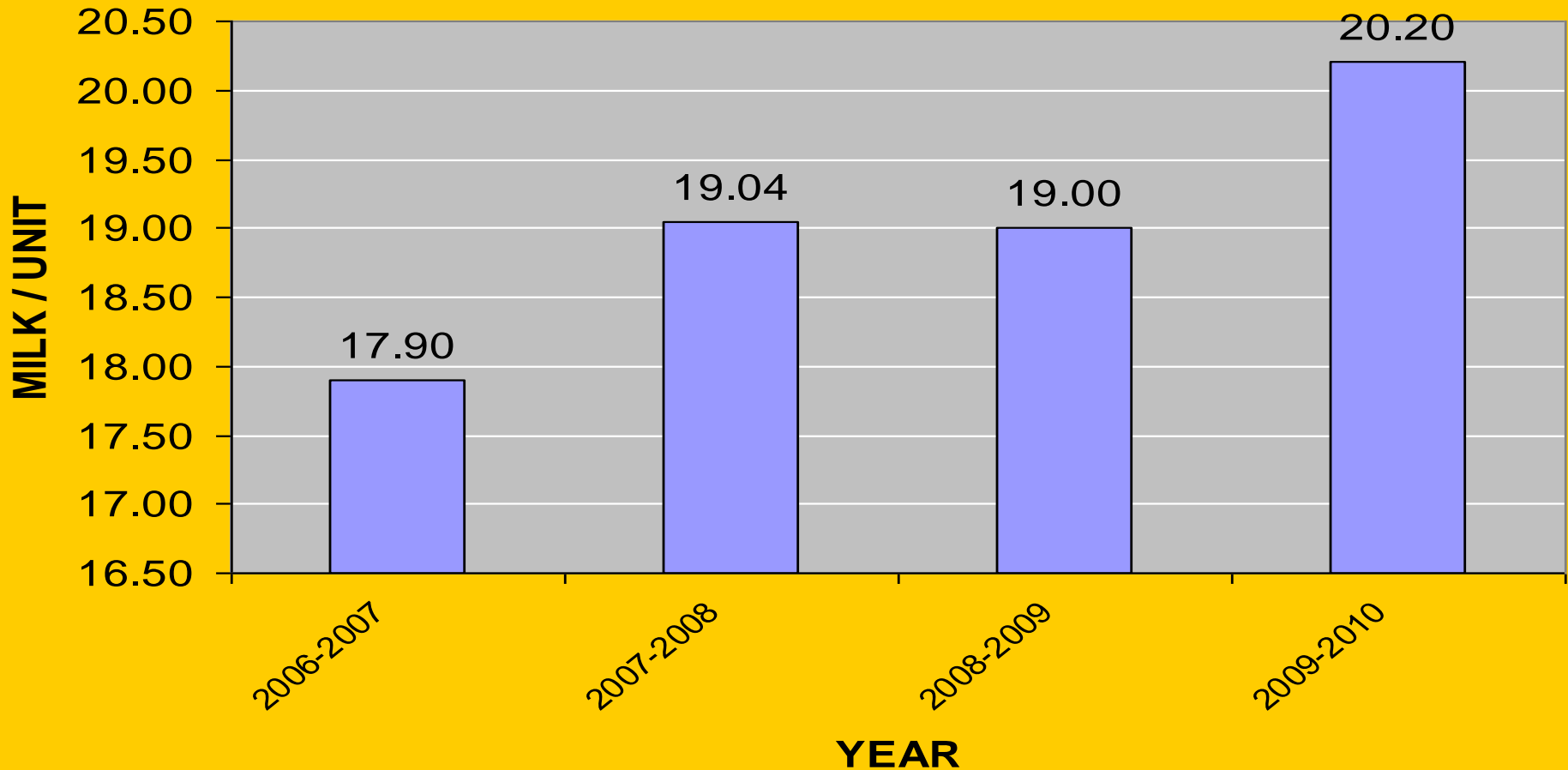
Last 3 years Specific energy consumption figures are shown below, which depicts continual reduction in energy consumption over last 3 years due to our sustained efforts to conserve with the implementation of various energy conservation measures and ideas to increase efficiency of all our operations.

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# Energy Performance



Last Four Years Gokul Plant Electrical Energy performance

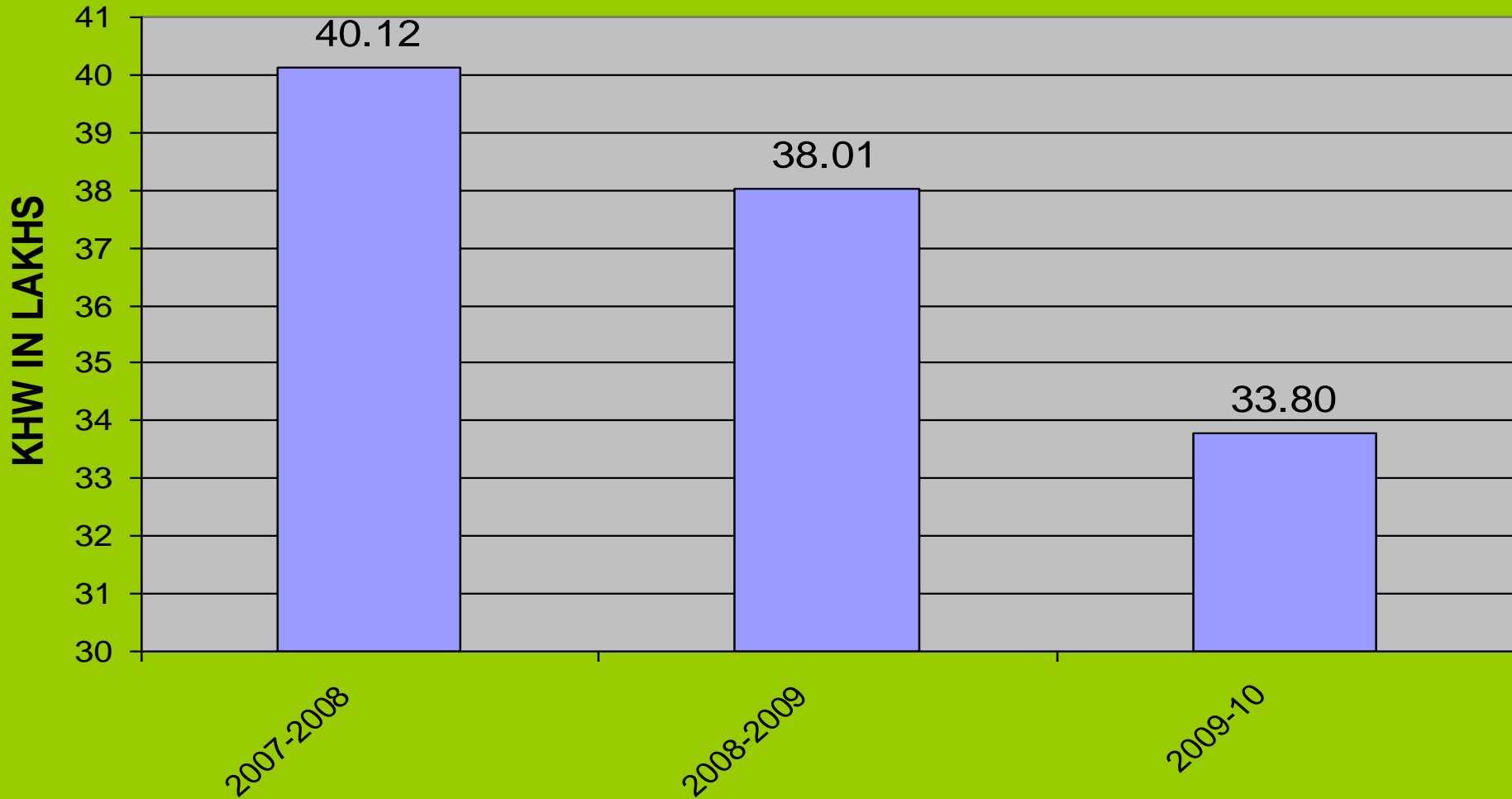


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# Energy Consumption



*Last Three years Gokul Plant Electrical Energy Consumption*



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## Energy Conservation Commitment, Policy and Set up

Heritage Foods (India) Limited, Main Dairy Plant, Gokul visualized the importance of Energy Conservation and taken measures accordingly in forming the core team and conducted several brain storming sessions section wise by creating awareness and to identify the areas to concentrate.



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# WHAT IS ENERGY ?

The dictionaries define energy in many ways such as:

- The capacity for vigorous activity
- An exertion of power
- The capacity of matter or radiation to do physical work or
- Such capacity of converted into heat from any of various forms as oil, coal, gas, fuel, wood, electricity, nuclear fuel, etc.,
- Other sources of energy are also present in the form of sun's heat, wind energy, wave energy and geothermal energy.



# Why is Energy Needed?

Energy is present in nature in various forms. It is used by mankind in different forms for various purposes such as lighting, heating, cooking, running machinery, transportation and so on. Energy is used by mankind in different spheres of activities such as in domestic, industrial, agricultural, commercial and transportation. Thus energy is a crucial resource for all nation building activities which keep the countries wheel of progress moving and economy to prosper.

**WITH OUT ENERGY MANKIND'S ACTIVITIES WILL COME TO A STANDSTILL AND NATIONS WILL COLLAPSE**

thus energy and mankind are inseparable and is of utmost necessity for progress and for life itself.



# What is Energy Conservation?

Energy conservation is the wise and efficient use of energy in order to ensure that for a given amount of energy maximum activities, productive work and profitability is achieved. It is thus slightly different from the word 'Saving' which may, in a strict sense, mean avoiding spending or consumption or suppression of demand, while the word conservation appropriately denotes efficient, economical and careful USE of energy.

# Energy scene & Energy Indicators



- Oil will last for 45 years
- Coal for 200 years
- Natural gas for 65 years

● Environmental effects of energy use

# THE ENERGY CONSERVATION ACT, 2001 No 52 OF 2001

[29<sup>th</sup> September 2001]



Enacted in October 2001. Become effective from 1st March 2002

## Background

- Wide variation - over 250% - in energy performance among industries
- 25-30% energy can be easily saved

## Barriers

- Absence of energy management systems
- Lack of top management commitment
- Lack of awareness about saving potential
- Shortage of quality energy professionals



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# Energy Efficiency Benefits



## Industry



- Reduced energy bills
- Increased Competitiveness
- Increased productivity
- Improved quality
- Increased profits !

## Nation



- Reduced energy imports
- Avoided costs can be used for poverty reduction
- Conservation of limited resources
- Improved energy security

## Globe



- Reduced GHG and other emissions
- Maintains a sustainable environment

# Energy Conservation Plan



## Introduction

Energy quite literally brings light into our lives. Today it is absolutely indispensable to modern civilization. The need for energy is ever increasing. To ensure we have enough of it tomorrow, we have only One measure today

Conservation - cutting down wastes to Minimum...

# ACHIEVEMENT 2009-10



**Installed 40 HP variable Frequency Drive for Delivery Fan at Powder Plant. Reducing 30% speed with VFD instead of Damper.**

**Power Saving : 0.25 lakh kwh per annum**

**Investment : Rs. 1.04 lakhs**

**Saving : Rs. 1.02 lakhs per annum**

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# ACHIEVEMENT 2009-10

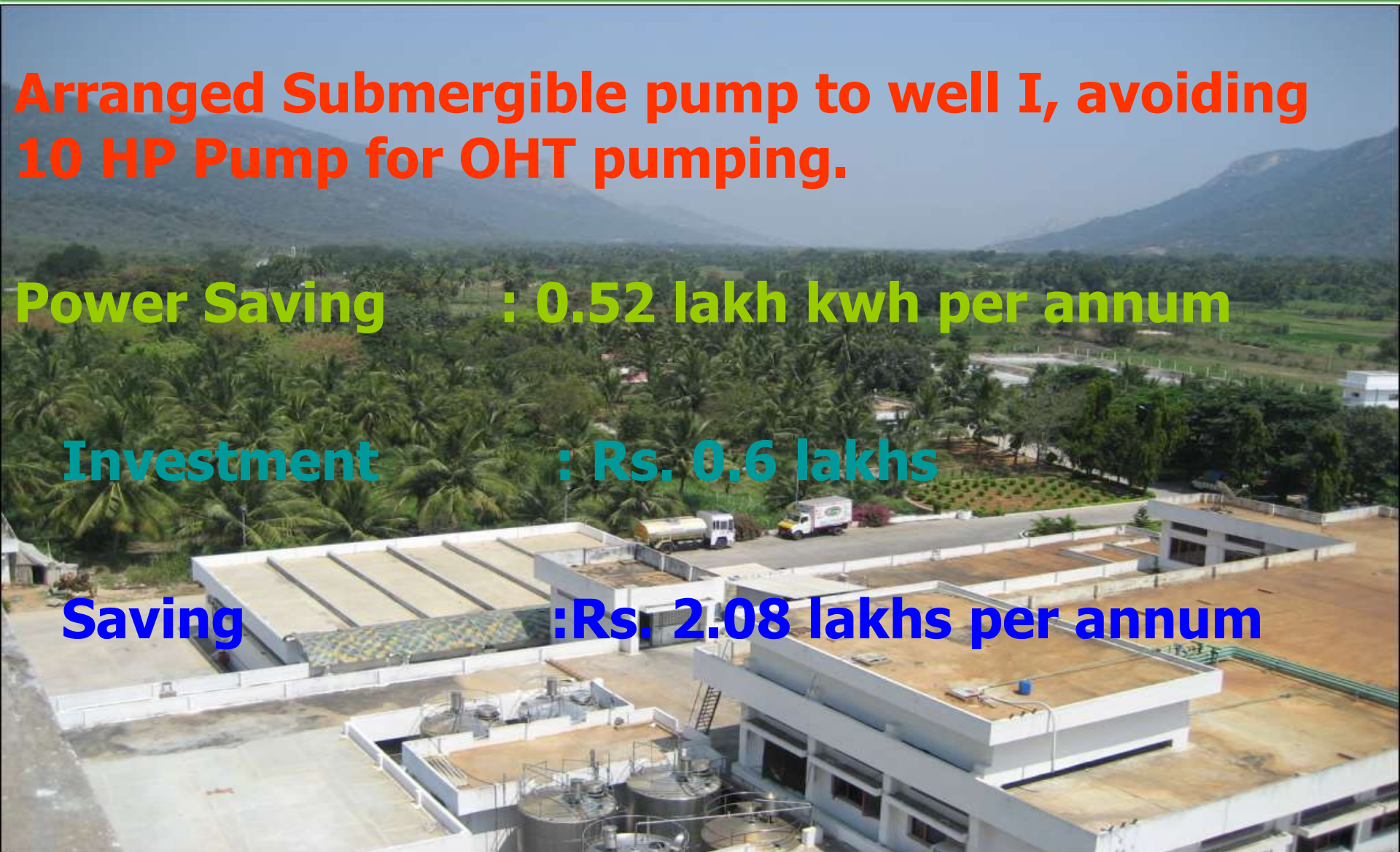


**Arranged Submergible pump to well I, avoiding 10 HP Pump for OHT pumping.**

**Power Saving : 0.52 lakh kwh per annum**

**Investment : Rs. 0.6 lakhs**

**Saving :Rs. 2.08 lakhs per annum**



# ACHIEVEMENT 2009-10



**Replaced Boiler feed water pump 12.5 HP  
Capacity at Boiler with energy efficient 7.5 HP  
Vertical Stage pump.**

**Power Saving : 0.19 lakh kwh per annum**

**Investment : Rs. 0.80 lakhs**

**Saving : Rs. 0.78 lakhs per annum**

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# ACHIEVEMENT 2009-10



**Altered Cold store Condenser, avoided water pumps of 5.0 HP Capacity at Refrigeration.**

**Power Saving : 0.24 lakh kwh per annum**

**Investment : Rs. 0.0 lakhs**

**Saving :Rs. 0.98 lakhs per annum**

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# ACHIEVEMENT 2009-10



**Provided common header to cold stores, avoided 20 HP NH3 compressor operation.**

**Power Saving : 0.98 lakh kwh per annum**

**Investment : Rs. 0.20 lakhs**

**Saving : Rs. 3.94 lakhs per annum**

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# ACHIEVEMENT 2009-10



**Modification of Flavoured Milk process chilling operation.**

**Power Saving : 0.276 lakh kwh per annum**

**Investment : Rs. 1.50 lakhs**

**Saving :Rs. 1.007 lakhs per annum**

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# ACHIEVEMENT 2009-10

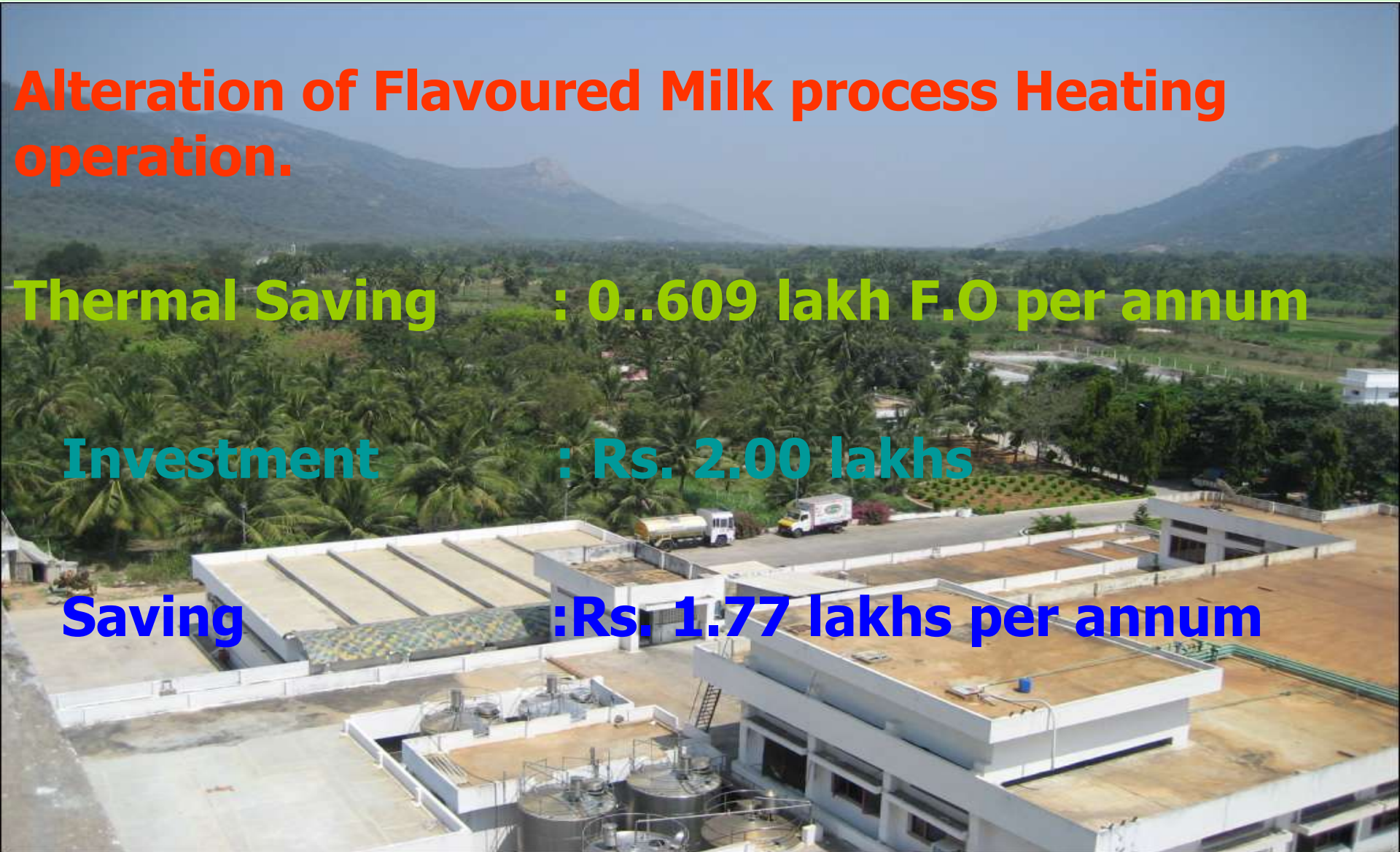


**Alteration of Flavoured Milk process Heating operation.**

**Thermal Saving : 0..609 lakh F.O per annum**

**Investment : Rs. 2.00 lakhs**

**Saving :Rs. 1.77 lakhs per annum**



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# ACHIEVEMENT 2009-10



Newly arranged yokogawa controlling system to 200 TR Ammonia Chiller to optimize operation.

Power Saving : 0.252 lakh kwh per annum

Investment : Rs. 0.250 lakhs

Saving : Rs. 0.894 lakhs per annum

# ACHIEVEMENT 2009-10



**Installed 30 x 70 w HPSV Venture fittings to New Flavoured Milk Block instead of 60 twin tube light fixtures.**

**Power Saving : 0.12 lakh kwh per annum**

**Investment : Rs. 0.360 lakhs**

**Saving : Rs. 0.37 lakhs per annum**

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# ACHIEVEMENT 2009-10



Replaced the existing Temperature PID controllers with high accuracy PID Controllers to Pasteurizers 1,2 & 3 and CIP Circuits and also installed paperless chart recorder to minimize the temperature wastages.

**Investment : Rs. 2.40 lakhs**

**Saving : Nominal**

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# ACHIEVEMENT 2009-10



**Level Controllers provided for various condensate and chilled water recovery tanks to avoid idle running hours as well as overflows.**

**Investment : Rs. 0.240 lakhs**



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# ACHIEVEMENT 2009-10



**Installed 100 KVA Servo Stabilizer for Lighting system to supply voltage 220 V constantly irrespective of input supply and power saving.**

**Power Saving : 0.22 lakh kwh per annum**

**Investment : Rs. 1.20 lakhs**

**Saving : Rs. 0.766 lakhs per annum**

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# ACHIEVEMENT 2009-10



**Replaced the existing 5 nos window air conditioners with 5 star BEE rated split air conditioners.**

**Power Saving : 0.127 lakh kwh per annum**

**Investment : Rs. 1.50 lakhs**

**Saving : Rs. 0.45 lakhs per annum**

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# ACHIEVEMENT 2009-10



**Condensate recovery flavoured milk process, sterilization and shrink tunnel.**

**Thermal Saving : 0.98 tonnes per annum**

**Investment : Rs. 0.30 lakhs**

**Saving : Rs. 2.77 lakhs per annum**



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# Conclusion



Energy is inseparable from economic development and social transformation, particularly for a developing country such as ours. Having realized the comforts of living and the prosperity which energy has made possible to mankind at large, it is now difficult to sustain the same standards, let alone improve them, unless valiant efforts are made to make available the energy resources needed. It is in this background Energy Conservation has assumed vital importance. Energy saved through conservation measures, is energy produced.

Substantial quantity of energy can be saved through conservation measures by one and all without sacrificing production or suffering inconvenience. It is, therefore, up to us to be more conscious of use of energy without waste. This, it must be realized is an adequate enough motivation to conserve energy – not only for us but also for future generations who would necessarily face the harsh crunch in energy availability. It is high-time that each one of us change our attitudes towards waste of energy. Energy conserved today will give us a better tomorrow.

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**THANK YOU**

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