

GLAXOSMITHKLINE CONSUMER HEALTHCARE LTD.

SONEPAT PLANT

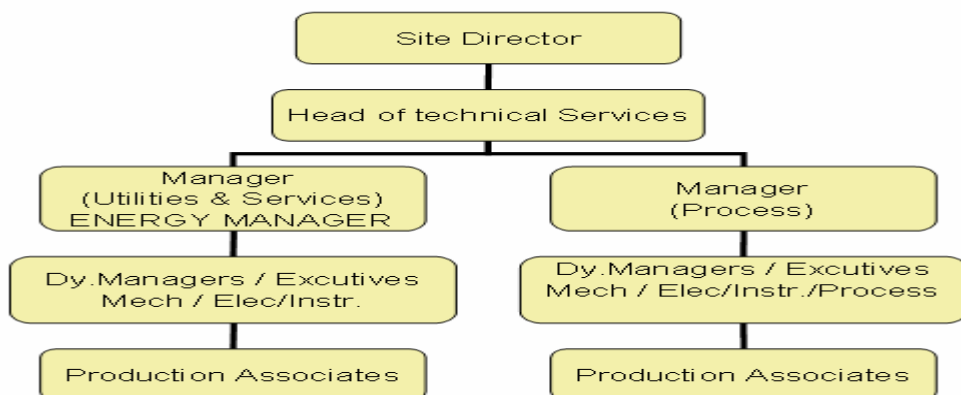
Unit Profile :

GlaxoSmtihkline Consumer Healthcare Ltd is an Indian group Company/associate of GlaxoSmithkline plc U.K. GlaxoSmtihkline Consumer Healthcare Ltd. is one of the largest players in the health food drinks industry in India. The Sonapat factory is involved in the manufacture of Horlicks, the flagship product of the Company, incorporating the highest and most stringent global manufacturing processes in the industry. The factory has a fully automated design that allows the product to be produced hygienically.

Energy Conservation Commitment, Policy and setup.

The key Driver for the site, since the commissioning of the unit in 2002 has been the reduction in the Utilities operating cost, without sacrificing any of its Global Quality Guidelines, EHS and Regulatory commitments. The unit has taken several initiatives towards Energy Conservation since then.

The site has a cross-functional Energy management team. The structure of the Core team is as shown:



The Sonapat factory has very Structured Energy management programme which includes exploration of Low cost energy alternatives, Reduction, Reuse and recycle of waste , promoting awareness and use of enabling technology.

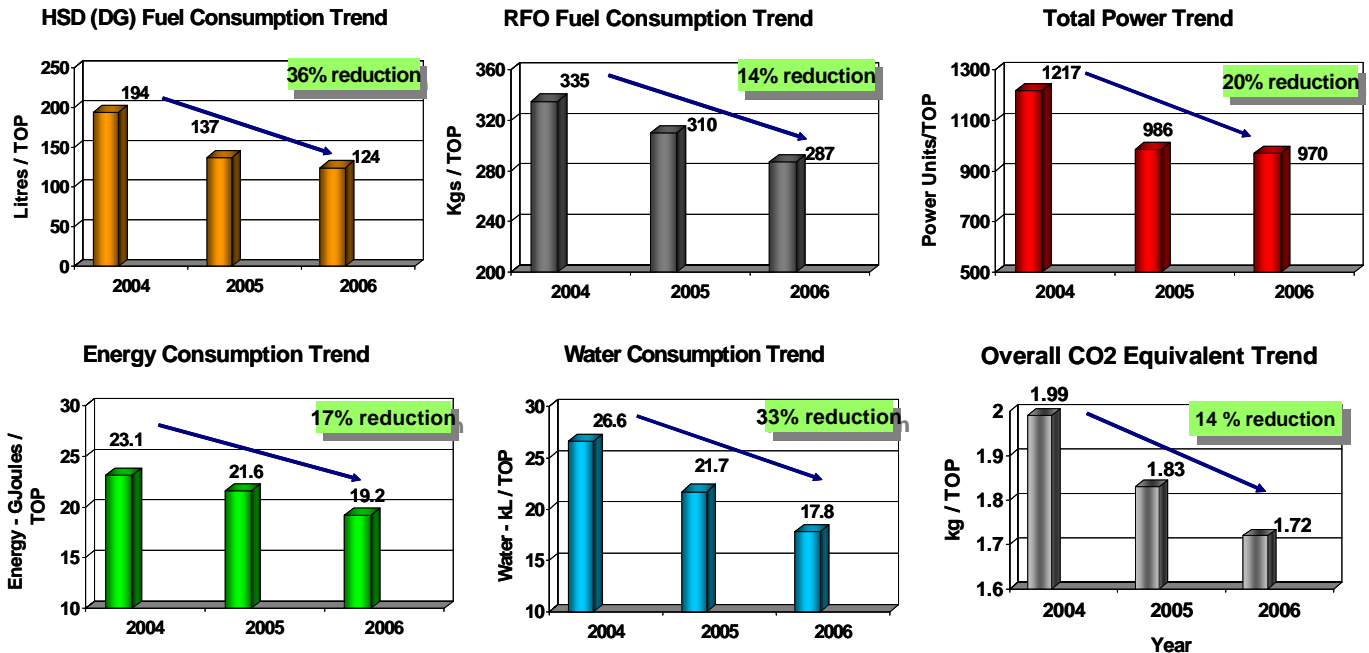
The Culture of Energy Conservation has been established in the Site through a visible Energy Policy, Energy Management Team, Data Monitoring & review Systems, Benchmarking & Knowledge Management, Training and Energy Audits.

Energy Consumption

Specific Energy consumption details	Unit	2004	2005	2006
Total Energy consumption per annum	kWH (Lakhs)	137	109	97
Total thermal energy consumption	Million kCal	40426	36397	28884
Total energy Cost	Rs. Lakhs	1199	1202	1257
Overall Energy Consumption/Ton of Production (TOP)	GigJoules/TOP	23.1	21.6	19.2

This is a 17% reduction in Overall Specific Energy Consumption for the period.

Graphical representation of Specific Energy Consumption (2004 – 2006)

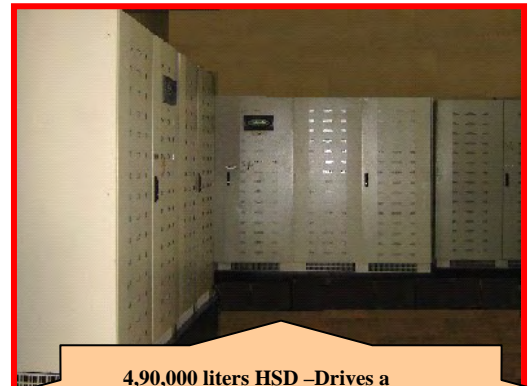


The Site has an excellent data management system for all energy consumptions in various streams. There is a robust review mechanism in place. Apart from daily reviews, idea schemes and continuous improvement Projects, Annual Baseline events are launched on Energy Conservation. **The Major Energy Conservation projects implemented during the year (Apr'06 to Mar'07) are as under:**

1. UPS For Critical Loads – (A trend setter project – First Time in Food sector).

There are two sources of power in the plant – State Electricity Grid and Captive DG's. Due to Poor reliability of State Grid, High Critical load of the plant, 1400 kW was operated with DG & Grid in Synchronization.

The Project was to install a UPS system of 1800 kVA for the high Critical load. This is the first time a UPS system is being used for Major Industrial drives of such a high rating. This has limited DG running to only total grid power outage and has reduced Diesel consumption by almost 3.5 kL/Day. Additionally, it has resulted in Power savings through reduced running of DG Auxiliaries and has reduced Air emissions.



4,90,000 liters HSD –Drives a Truck over 1 million kilometers. (25 times around the earth).

- Power saving (kWH p.a.) : -
- Fuel saving (L p.a.) : 4,90,000
- Investment (INR) : 1,53,00,000
- Annual saving (INR) : 79,18,000
- Pay back : 2 years Appr.

2. Improvement in Plant Operational Efficiencies

Various continuous improvement initiatives have been taken to improve the Operational efficiency of the Plant by more than 20 % over the previous year. This has resulted in improved throughput of the plant by 20%, thereby reducing plant Operating Days by 30 days in the year to deliver same volume.

- Energy Saving (kWH p.a.) : 14,66,000
- Fuel (RFO) saving (L p.a.) : 6,11,000
- Investment (INR) : 35,00,000
- Annual saving (INR) : 2,08,33,000
- Pay back : < 3 months

3. Solar Heating for Laundry and Canteen.

Laundry applications for the Site were operated on Boiler and electric heating system. Similarly, Hot water requirements of Canteen were met through LPG heating. Solar Water Heaters have been installed in Laundry and Canteen Areas which ensures all hot water requirements for these areas is now met through the Solar Water heaters.



- Power saving (kWH p.a.) : 23,600
- Investment (INR) : 250,000
- Annual saving (INR) : 120,000
- Pay back : 2.1 years

4. Installation of Harmonic Filters.

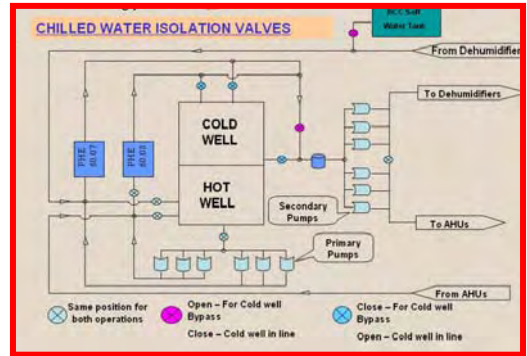
The Plant has a high population percentage of Non linear loads, which was adversely impacting Power quality and also resulting in higher Energy Consumption. A Harmonic Study was initiated for the entire plant and Harmonic Filters were installed at a Cost of INR 46 Lacs. This has resulted in improvement in Power quality to defined norms and has resulted in Energy saving of approx 1.25 Lac units per annum.



- Power saving (kWH p.a.) : 1,23,781
- Investment (INR) : 46,00,000
- Annual saving (INR) : 5,50,000
- Pay back : 8.3 years.

5. Optimization in Refrigeration System

The original configuration of the Refrigeration system was through a Hot well and Cold well arrangement. While this was first modified to a Common Well system by elimination of Hot well, subsequently, this has been modified to a Closed Loop system by eliminating the Cold well also. The schematic is as indicated. This has reduced the pumping Load by 70 kW.

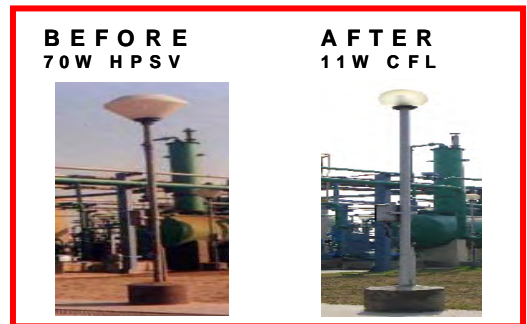


- Power saving (kWH p.a.) : 2,35,200
- Investment (INR) : 2,00,000
- Annual saving (INR) : 12,00,000
- Pay back : < 3 months .

6. Lighting

A rationalization study and review was done for lighting in the plant in terms of Usage and required lighting levels. Basis the recommendations of the study, 55 Nos. of 70 W HPSV Fittings were replaced by 11 W CFL's, 400 W Mercury vapor Lamps replaced by 250W.

- Energy Saving (kWH p.a.) : 41,000
- Investment (INR) : 50,000
- Annual saving (INR) : 225,000
- Pay back : < 3 months



In addition to these, various other initiatives have been identified, whose implementation is currently under progress. Some of the major Energy Conservation initiatives include alternative for reducing Steam Generation Costs, Optimization in Equipments for better efficiencies and Heat Recovery systems. These initiatives will help in reducing the site's Energy consumption by 25% by 2010 as against 2006 targets.

EHS

The GSK EHS Vision is to achieve sustainable competitive business advantage through leadership and excellence in Environment, Health and Safety. The site has been accredited with the ISO 9001, ISO 14001& HACCP in 2003 end and OHSAS 18001 certification in June 2004. "Zero Lost Time on Illness and Injury" is a norm at the site, which demonstrates the passion people have on Safety. The site also has a unique record of achieving 6.62 million LTI free Man-hours during construction phase which was achieved by embedding EHS concepts right from the construction stage and using innovative concepts used during designing stage. In the Global EHS Audit on EHS standards in 2005, the site obtained the highest score among GSK Consumer Healthcare Sites, worldwide. The Site has installed Bio-Composting and Rain water harvesting systems in 2005-06.

Extensive training is held at site on various EHS themes including Water and Energy Conservation. Health surveillance is conducted regularly for all employees and contractors at site. A free health camp was also conducted in 2006-07 for adjacent villages.

The site also conducts awareness sessions on Energy Conservation and Water Conservation in the nearby villages, covering about 80 villagers in 2006-07. An awareness video was screened on the occasion covering the importance of 'Rain water harvesting' and 'Reducing wastages'. The video, in local language was depicting a house hold scenario.



Training session on Energy Conservation at a village



Other awareness sessions conducted include Safety Programs for School Children on road and domestic safety and AIDS awareness program on World Aids Day.

The site also undertakes various Community partnership programs like Eye Care Centre, started in 1997 during construction phase of the plant itself and more than 2000 Patients treated till date. Other initiatives include the donation of 75 Sewing machines to poor rural women folk, after imparting training on the same, so as to help them in augmenting family income and the donation of a Fire Engine to the local fire department.
