Second Prize ***Chlor-Alkali***

DCM SHRIRAM LIMITED

(Unit: Shriram Alkali & Chemical)
Bharuch (Gujarat)

Unit Profile

DCM Shriram Limited (unit : SHRIRAM ALKALI & CHEMICALS) is a 157500 tonnes per annum Chlor Alkali Plant situated at Jhagadia (Distt Bharuch , Gujarat) based on state of the art membrane cell technology and integrated with energy efficient captive co-generation coal based power plant.

The unit is manufacturing caustic soda lye, caustic soda flakes, chlorine , hydrochloric acid & hydrogen since March'1996.

The major raw materials are common salt and power.

The installed capacities of various products being manufactured at the unit are as follows:

	Product	**Capacity (TPA)**
1.	Caustic soda lye	157500
2.	Caustic soda flakes	33000
4.	Hydro chloric acid	40000
5.	Hydrogen	3938

Energy Consumption

Being a Chlor-Alkali Unit, company's plant is a highly energy intensive plant. Electrical energy is the major raw material and the contribution of electrical energy is about 70-75% of total raw material cost.

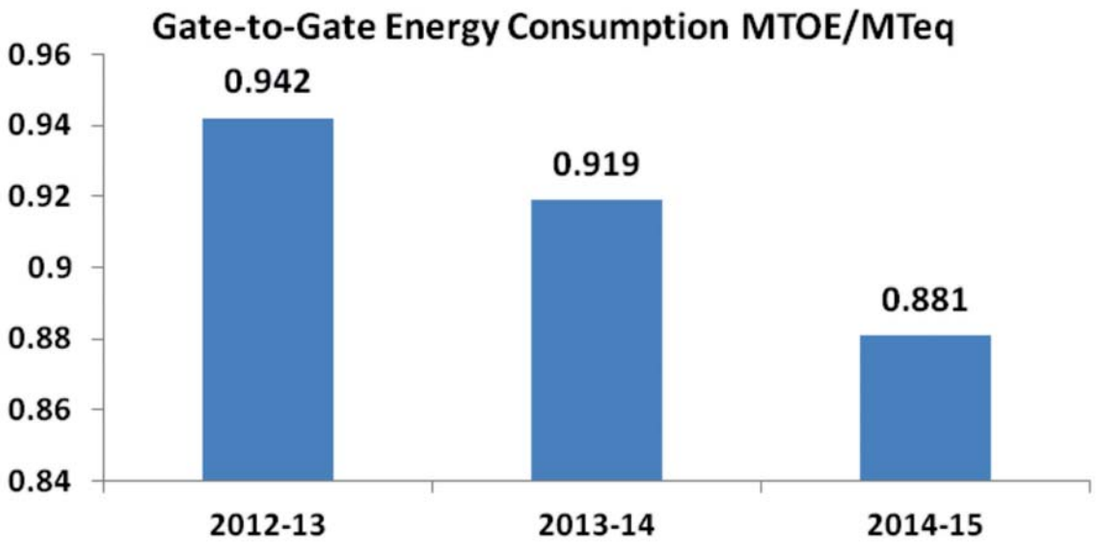
Company policy is continuously strived to optimize the use of energy in all its operations.

Following measures have been taken for energy conservation in FY 2014-15

Sl. No.	Project Description	Annual energy savings (Lac kWh)	Total savings Rs Lacs	Investment Rs Lacs
1	Heat recovery from flue gas by installing Air Pre heater	27.48	75	143.93
2	Replacement of Anodes in electrolyser B & D	62.21	256	275.62
3	Replacement of membrane in electrolyser C & G	30.35	125	374.8
4	Energy saving by providing VFD in Caustic soda pump - B(NCZ) (90KW x 1500 rpm)	3.15	10.5	0
5	Energy saving by providing VFD in Return brine pump - C (45KW x 1500 rpm)	1.49	6.2	2
6	Energy saving,by providing VFD in 3rd to 1st effect pump for CCU (18.5KW x 2900 rpm)	0.43	1.8	4.21
7	Energy saving by providing VFD in CT Blow down pump	0.28	1.1	0
8	Power saving by applying anti friction coating in power plant cooling tower pump - A & C	1.91	7.6	1.7

By continuous focus on energy conservation unit achieved significant reduction in its specific energy consumption over last 3 years.

The Gate-to-Gate Energy consumption (MTOE/MTeq) of last three years is as follows.



Energy conservation

Shriram Alkali & Chemical's policy is continuously strived to optimize the use of energy in all its operations.

This is a key component of company strategy to improve cost competitiveness of its products and their long-term profitability.

The company is consistently striving for further reduction in energy savings. Some of the energy saving schemes proposed for future are as follows:

- Expansion of plant production capacity by addition of new 600 TPD plant based on highly Energy Efficient Zero Gap Electrolyzers.
- Conversion of Natural Circulation (NC) Technology based Electrolyzers into Energy Efficient Zero Gap electrolyzer (NCZ)
- Replacement of cell units, which are consuming more power due to their deterioration of active anodes and cathodes surfaces with passage of time.
- Replacement of non efficient membranes, which are consuming more power due to their deterioration with passage of time.
- Install variable voltage variable frequency drive for various pumps which normally do not run at its full capacity.
- Increasing the plant capacity by de-bottlenecking of the existing equipments to reduce auxiliary power consumption.
- Reduce energy consumption through better process control, maintenance and regular energy audits by accredited energy auditor.
- Incorporate modern energy efficient practices and design concepts during the planning stages of new projects.

Energy Policy

DCM SHRIRAM

ENERGY MANAGEMENT POLICY

It is our policy to continuously strive to optimize the use of energy in all our operations. This is a key component of our strategy to improve cost competitiveness of our products and their long-term profitability.

We shall achieve above objectives by adopting following proactive approaches:

a) Improve awareness about energy conservation within organization through training and education.

b) Reduce energy consumption through better process control, maintenance and regular energy audits by accredited energy auditor.

c) Promote more efficient and environment-friendly energy sources and energy-use methods.

d) Promote Energy Conservation as one of the ways of improving Environment and Waste Minimization.

e) Incorporate modern energy efficient practices and design concepts during the planning stages of new projects.

f) Incorporate life cycle energy consumption concepts during the procurement stages of new equipment and systems.

We shall implement our policy by benchmarking our energy utilization techniques with best practices, adopting modern techniques, retrofitting with high efficiency equipment and seeking cooperation from external agencies to reduce our energy consumption.

DCM is aware of its social responsibility towards sustainable development and environmental improvement and believes that energy conservation is the key means of achieving this cause.

Date: 4th March-2014

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