

INDIAN ALUMINIUM COMPANY LIMITED

Belur Works, Belurmath (West Bengal)

Unit Profile

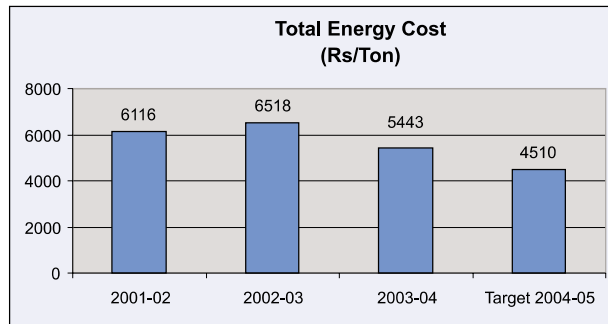
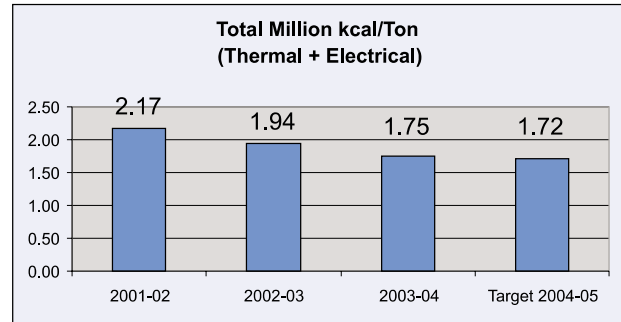
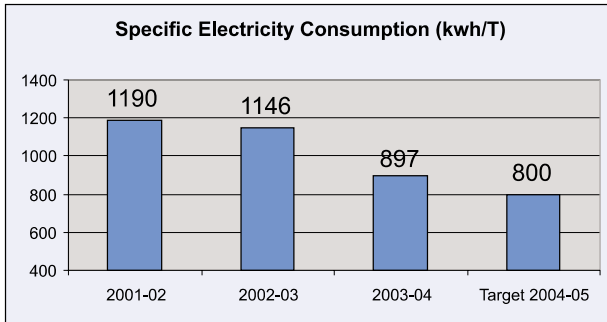
Indian Aluminium Company Limited has got an aluminium rolled products factory at 39, G.T.Road, Belurmath, Howrah with a capacity of 45,000 tonnes per annum. This unit is 64 years old and is the oldest factory of the company as well as the oldest aluminium sheet factory in India. During the financial year 2003-04, the factory has produced 44727 tonnes (Rs. 436 crores) of aluminium sheet. It is one of the most diversified aluminium sheet factories in the world capable of manufacturing 32 different alloys and supplying to the Defence, Packaging, Bottle Closure, Pressure Cooker, Automobile and Building industry throughout India. In 2003-04, about 10620 tonnes of sheet were exported from the factory.

Energy Consumption

Energy Cost comprises about 30 % of the total plant cost. The basic energy inputs are Electricity, Furnace Oil and Coal Gas. There has been a steep increase in the cost of energy, specially electricity over the years, the unit has however been able to maintain/reduce its energy cost per ton of production through concentrated Energy Conservation efforts.

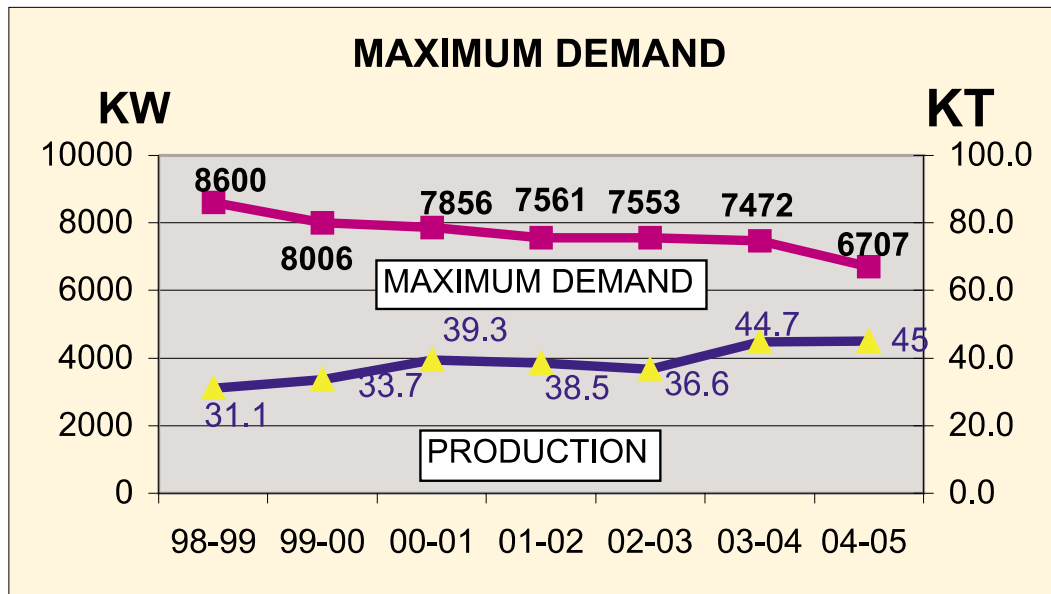
Specific Energy Consumption

The unit along with implementation of numerous energy saving projects have also taken up fuel switching project and has converted one of its preheating furnace from electricity to coal gas heating in 2003-04. The second preheating furnace was also converted during early 2004-04. This has led to reduction in specific electricity consumption and also total energy cost. There has been also a reduction in the total energy input to the plant in terms of Million kCal per ton through energy conservation efforts.



Reduction in Maximum Demand

The Plant has also been able to reduce its Maximum Demand over the years through effective Demand Management through planning process, reduction in consumption level and finally through fuel switching. This has been possible even with increase in production volume.



Energy Conservation Commitment, Policy and Set up

Energy Conservation Commitment is driven through Corporate Energy Policy. The unit has adopted this policy in its day to day activity and has integrated the same

Energy Conservation Achievements

Details of major action taken during 2003-04:

The year 2003-04 was the year for consolidation of all energy saving projects implemented during 2002-03. Major actions taken during the year 2003-04 are as follows:

- i) Conversion of the first Preheating furnace (1600 kW) from Electricity to Coal gas heating.
- ii) Optimisation and fuel switching of heating systems at Remelt
- iii) Revamping and optimisation of the compressed air system. This involved compressed air system audit by reputed agency and implementation of audit recommendation.
- iv) System optimisation of various systems operating with VFD.
- v) Installation of Automatic Voltage Regulator Transformer of 300 kVA & thereafter 150 kVA for the entire Plant lighting load.
- vi) Preheating & Annealing Furnace loss reduction through replacement of doors by improved design, rating optimisation, automation & insulation change at some places
- vii) Capacity optimisation of various pumps.
- viii) Tuning of systems already fitted with VFD
- ix) Number of other actions were initiated during 2003-04 for projects with high implementation time that were finally implemented during early 2004-05. Some of these are:
 - Elimination of the MG sets for the Main (1150 kW) & Coiler (450 kW) drive of the Bliss cold rolling mill with DC drive.
 - Conversion of the second Preheating Furnace



Coal Gas System at Preheater



**MG Set for 1000 HP
Motor Eliminated**



**MG Set for 400 HP
Motor Eliminated**



**Motor Cooling
Blowers Eliminated**

Energy Conservation Plans and Targets

- (1) Fuel switching project to be taken up in annealing furnace, converting electrically heated furnace into coal gas heating furnace using radiant tube burners.
- (2) Detailed Energy Audit was carried out in July 2004, many new projects have been identified. These will be implemented during next few months.

Environment and Safety

Environment

- The Plant is well within the prescribed norms set by the State Pollution Control Board in terms of discharge of effluents and gaseous emissions.
- The plant water consumption has been brought down further through specific water recycling projects and enhancing rain water harvesting. The plant water consumption during 2003-04 has been 1.79 Kl per Ton compared to 2.07 Kl per Ton during 2002-03
- The plant effluent discharge has also reduced from 155 Kl/Day during 2002-03 to 132 Kl/Day in 2003-04
- Reduction of plant energy consumption has directly contributed towards reducing GHG emission, specially after implementation of the fuel switching projects.
- All actions are driven through ISO 14001

Safety

- The year 2003-04 has been an accident free year for the unit.
- The plant has also implemented OHSAS 18001 system and has obtained certification in March 2004 (copy enclosed). All minor injuries are analysed and corrective & preventive actions are initiated to prevent bigger lapses.
- Regular plant safety rounds are conducted by senior personnel.
- Safety audits are carried out at regular intervals.
- The unit has a two tier safety committee which meets every month to discuss safety and occupational health related issues.