



“PAT scheme will facilitate in reducing the energy consumption levels of the system.”

Kamal Kumar,
Chief General Manager, Holtec Consulting

The industry is aiming at 650-670 kcal per kg of clinker as far as thermal energy is concerned and close to 70-75 kWh per tonne of cement, depending upon the type of cement being produced (OPC or PPC), says **Kamal Kumar, Chief General Manager, Holtec Consulting.** Excerpts from the interview...

What are the major challenges in retrofitting/setting up of new cement plants?

The current economic crisis guides a manufacturer not to invest big in plant. In such a situation, minor investments in retrofit projects and associated short down time to improve the plant operational efficiency gives techno economic benefits. In retrofitting projects while upgrading the plant capacity, we proceed to exploit the available inherent potential in the design margins.

In Greenfield or Brownfield plants, energy efficiency is a matter of concern for everybody. Energy in cement plants is primarily electrical energy and thermal energy. Thermal energy is basically through coal. The

recent favourable developments in coal sector and allocation of coal blocks may facilitate the availability of coal sustainable to the cement industry. Currently, cement industry is mostly getting coal through alternative sources like import from Indonesia, South Africa etc. Also, petcoke available from petroleum refining industry is being used.

Our efforts are focused towards the industry receiving optimal solution and optimisation is being done while safeguarding the advantage of the latest developments in the technology and reduce energy consumption. The industry is aiming at 650-670 kcal per kg of clinker as far as thermal energy

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is concerned and close to 70-75 kWh per tonne of cement, depending upon the type of cement being produced (OPC or PPC).

What is the scope for Greenfield projects?

In Indian cement industry, there are limited limestone reserves available and putting up Greenfield cement projects depend upon the availability of cement grade limestone.

As we understand, the Government is keen for infrastructure developments and for which cement is one of the important component beside steel. Hence it is reported that Government is planning to come out with new circulars which will facilitate de reserving some of the available lime stone deposits. It is possible that some mines are de-reserved in near future. It is recently reported that five mines in Rajasthan have been allotted to cement Industry. It all depends on the government policy taking into the environmental considerations. In Jaisalmer, Rajasthan, there is a good deposit of limestone. Though not cleared for security reasons, the government is planning of issuing some license. One recent

example is one such license reported to be given to a cement plant. Hence, developments are going on, but will largely depend on the Government policies as well as availability of limestone and environmental considerations. Further, in Himachal Pradesh, abundant quantity of limestone is available.

Which section/process in a cement industry has the highest scope for improvement in terms of energy efficiency?

Crushing and grinding sections are the most energy-consuming process in cement manufacturing. So, grinding is the area where there is a maximum energy saving potential. Grinding uses almost 65-70 per cent of total energy in overall manufacturing process.

How much can an existing plant improve its energy efficiency through repair or a retrofit?

In an existing cement plant, regular plant audits need to be conducted to identify the non-performing areas and the associated reasons. The detailed audit will spell out the scope of retrofitting for harnessing the hidden potential available in the system.

What kinds of energy saving measures/technologies do you recommend to your clients?

Normally, the approach is reducing the energy consumption with process intervention. When we say process intervention, it is a combination of raw materials and operational interventions as well as such as use of alternate fuels, optimised raw mix design, prevention of the system leakages, increasing the efficiency of cooler by proper optimisation techniques etc.



PAT scheme will facilitate in reducing the energy consumption levels of the system.

What is your outlook on the PAT scheme introduced by the Bureau of Energy Efficiency?

Introduction of PAT scheme for energy intensive industries improve energy efficiency and facilitates cost effectiveness by certifying energy saving measures that could be traded through its market based mechanism. It is a good scheme to achieve the target, but the parameters which have been fixed by the BEE are quite stringent, specifically for the old vintage plants. Largely, the PAT scheme will facilitate in reducing the energy consumption levels of the system.

Could you give us with examples where you helped cement companies reduce energy bills?

There are plenty of examples. We are active both in India and overseas. So far we have done more than 80 such assignments. Recently we have done a plant operation audit of cement grinding unit at Shah Cement

in Bangladesh. They had the issue of high specific power consumption. We carried out detailed study on the plant and suggested measures to improve the productivity which Shah Cement implemented and got the benefits.

Apart from Shah Cement, we have done similar projects at Shivam Cement in Nepal, Yanbu Cement in Saudi Arabia, and we are currently working on an assignment in Oman Cement, JK Lakshmi Cement plant at Sirohi (Line 1).

How much can a plant expect to save in energy costs by applying IT solutions?

IT solutions facilitate in control and monitor the system in totality. Energy efficiency and cost saving is mainly achieved through process interventions and improvement in mechanical maintenance practices. IT will contribute a lot towards monitoring and thus facilitating energy saving measures.