

## **THE INDUSTRY OF PULP AND PAPER OF OUR COUNTRY AND ENERGY SAVING IN THIS FIELD**

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First of all, I am glad to express thanks to the members of the United Nations Industry Development Organization, the Government of India and Indian Pulp and Paper Research Institute and all the members who organized the common workshop in the field of energy saving in the production of pulp and paper.

Since the technique of pulp and paper industry was developed, so many hundred years past, But we have never known the time like now to ask to save the energy and, to put the high requirements of the maintenance of energy in this field as like as the other fields.

Specially, it is one the most important problem to save and maintain the energy in the industry of Pulp and Paper in developing countries like our country.

Before liberation in our country, we have two or three small scale manual paper and paper factories, besides it was almost destroyed by war.

But now we have constructed 200 of big and small, modern and local for pulp and paper during 30 years.

All the mills are operating with our own materials, fuels, technicians and experts.

We are producing all kinds of paper goods needed for us and also are carrying out the struggle to save the energy and use effectively it with big scale.

All our mills are operating by own coal instead of heavy oil according to our natural resources.

From the viewpoint of preservation for the nature, we are produce the timber with the circulation cutting method and form the forest for the pulp & paper intentionally with a large scale.

And also we are using the straw materials and reed which was produced in the reclaimed tide land of west beach for the production of pulp & paper.

Dear Sirs,

As you know our country is 'studying country' and 'education country', and students and studying pupils is a quater of the population of our country.

In this circumstances, the requirement of the paper goods goes up continuously and increase the requirement of the kraft paper, several kinds of packing paper and the other industrial papers for the cement packing and clinker export.

Therefore, we have a great concern for the production of the paper goods and saving of the energy in this fields. It is important to increase the effectiveness of energy in this fields.

So that we carried out the studying for the installation of the high efficient energy equipment, enhancement of the effectiveness of the heat, recovery of the waste heat and reducing of the power for the equipment.

In our paper Mills, they have a good experiences to save the energy such as improvement of the operation and equipments according to the fuel condition, in order to increase the effectiveness of the heat in the coal boiler and alkali recovery boiler, and checked all the heat equipments for the process of formation of the paper, evaporation process, steam melting process, leaching process.

For example, in a factory of sulphonate pulp for kraft paper:

- 20% of heat was saved with exchange the new boiler using low calories (3000 kcal) coal which was produced in the local place.
- Average temperature of year is 4 degree and minimum temperature is -40°. In such situation they reconstructed the underground channels with insulating blocks for heat pipe from the boiler to the paper making equipments so that they reduced the loss of heat by 30%.

- And they reduced the melting time with a introduction of direct steam melting method using injecting nozzle instead of indirecting heat-up method in the oven of the steam melting and produce good quality of kraft pulp with low loss of heat.
- Recovered all amount of water from the drum paper making machine and increase temperature of the materials. It was reduced the consumption of heat by 15 % in this machine.
- In the evaporation process for alkali recovery, they used new type of cleanning machine for the heat pipe. So they keep all the pipes clean, it give 10 % of reduction of the quantity of steam in this process.

This is a example of a factory.

In the future we will continue our studying the saving of energy and effective use in this fields.

In order to get good successes of this purpose, must be prepared the excellent technicians and experts for this department and material and technical basis of the institute and enhance the creative co-operation with workers and technicians and scientists.

We have several educating system to educate the engineers and expert for this fields. So every year many engineers and technicians are dispatching to the factories and scientific organization are continue their study for saving the energy for this part.

In the future ~~we~~ we will solve the several matters such as complete ignition of the facts at the cost boiler and recovery boilers, improvement of the materials for electric

heat, recovery of waste heat and improvement of the materials for insulation.

We will develop the up-to-date techniques, e.i. Michorical pulp production and higher concentration method at the paper production.

This technical workshop is very important meeting which will be get good success in the working for ~~an~~ energy conservation and development of pulp and paper industry in developing countries.

And we will do our best to co-operate with the developing countries and international organizations for the discussions and connection of the technical asistances in this purpose.

We would like to express thanks once again to the United Nations Industrial Development Organization arranged this excellent meeting, the Indian Pulp and Paper Research Institute and all the manufacturers of Indian pulp and paper.

Thank you for your kind attention.