



“Environmental Issues and Solutions for the Indian Pulp & Paper Sector- PROGRAM OVERVIEW”

DEBAJIT DAS
GIZ



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

- A public-benefit enterprise of the German Government [German Federal Ministry for Economic Cooperation and Development]
- Supports the German Government in the field of international cooperation for sustainable development.
- GIZ is also engaged in international education work around the globe.
- GIZ currently operates in more than 130 countries worldwide and has over 16,000 staff.



GIZ in India

- **Germany has been cooperating with India by providing expertise through GIZ for more than 50 years.**
- **Focus on the following areas:**
 - » **Energy - Renewable Energy and Energy Efficiency**
 - » **Sustainable Urban and Industrial Development**
 - » **Natural Resource Management**
 - » **Private Sector Development**
 - » **Social Protection**
 - » **Financial Systems Development**



Indo German Environment Partnership (IGEP) Programme

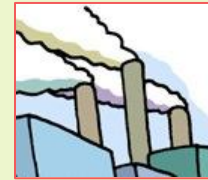
MoEF is official partner from GoI and GIZ is official partner from Govt. of Germany



**Policy for Environment
and Climate**



**Sustainable Urban
Habitat**



**Sustainable Industrial
Development**



**Capacity Building
- Cross Cutting**





Sustainable Industrial Development (SID).

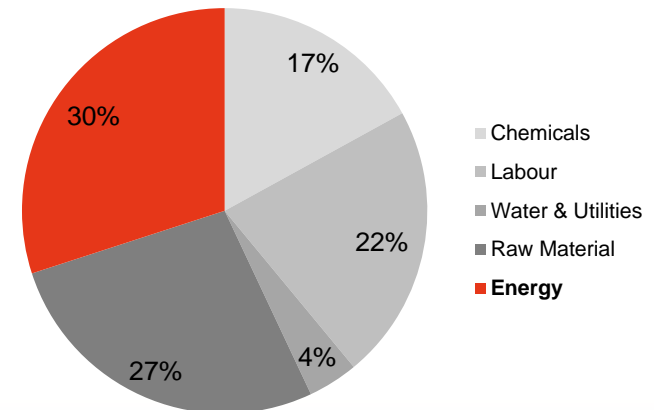
Core topics:

- “Environment-friendly Techniques in Identified Industry Sectors”
 - “Planning of New Industrial Parks and Investment Zones”
 - “Waste Water Management”
- Objective of EFT topic - is the use of environment-friendly technologies and techniques is promoted in selected SME sectors”.
- This core topic has focus on Pulp & Paper (and Textile) sector with following activities:
- Baseline Surveys / Situation Analysis
 - Organisation of State Level Workshop
 - Identification of Pilot projects
 - Demonstration of environment-friendly technologies



Paper Industry Overview

- Paper industry has poised growth and touch 11.5 million tons in 2011-12 from 9.18 million tons in 2009-10
- Indian Paper industry accounts for 1.6% of world's production
- Provides employment to 0.50 million people
- Highly energy intensive, the share of energy cost in total manufacturing cost is 25-30%





GIZ Project Framework- Pulp & Paper

- **Identify the environmental issues** related to pulp & paper sector (perspectives of the industry, regulatory agencies, people, government...)
- **Highlight the immediate need** of the sector in order to do their business in sustainable manner
- Identify **best available** environment-friendly **technologies and techniques** (most effective – e.g. reduces pollution, allows implementation - technically feasible, economically)
- **Demonstrate** the use in selected pulp & paper industries
- Develop an **up-scaling strategy** and supportive policy documents/instruments



Core Environmental Issues (Recycled Paper)

- High TDS in paper mill effluent due to use of internal sizing agent
 - High BOD and COD in paper mill effluent
 - Control of Absorbable Organic Halides (AOX),
 - Plastic waste
 - De - inking sludge
 - ETP sludge
 - Fly Ash
 - Steam losses from open drying system
 - High water and energy Consumption



BAT as solution for environmental Problems

- BREF Pulp & Paper industry includes description more than hundreds of techniques in the chapter “Techniques to consider in the determination of BAT”
 - Generic BAT for whole Pulp & Paper industry
 - Process-integrated BAT
 - End of pipe techniques
 - All main Pulp & Paper fibre types are included
 - additional information on auxiliaries and typical recipes
- BAT refer to industrial practice with valuable information for plants of different size and structure (small plants as well as large plants)
- Application of BAT often results in cost savings, partly without great expense

Ref. BREF (BAT Reference Documents; Free downloads: <http://eippcb.jrc.es/reference/>)



THANK YOU