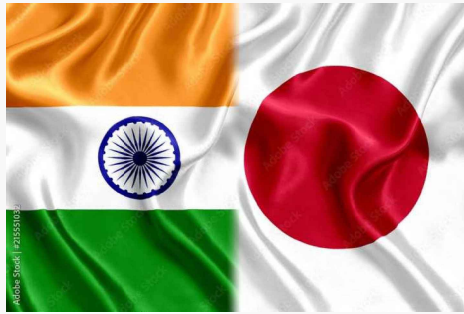


Sustainability in the Indian Pulp and Paper Industry



ISSUES, CHALLENGES, INITIATIVES AND STRATEGIES

07.03.24

Ganesh Bhaddi, President (IPPTA)

"The greatest threat to our planet is our belief that someone else will save it."



Presentation flow



1. Challenges - Calls for great efforts and determination
2. Opportunities - "Can Do" approach opens avenues
3. Scenario – Energy, Environment, Water – Bestowed gifts to us, however to be cared
4. Sustainable approaches and Initiatives - For making the Earth a better place to live
5. Our Manufacturing Focuses on - Sustainability Goals
6. The changing Future for Paper - Reform, Perform & Transform - The best way to predict the future is to create it
7. Expectation from the Team - Preparing for the Future



1. Challenges

Raw Material Sourcing

Fiber shortage

Environmental Sustainability

Pollution and Waste Management

Resource Consumption

Energy Costs and Efficiency

Energy Intensive Processes

Technological Upgradation

Obsolete Machinery and Technology

Market Dynamics

Competition

Paradigm shifts in Product Demand /

Different segment

Regulatory Compliance

Environmental Regulations

Labor Regulations

Skilled Labor Shortage

Technical Expertise

“Not challenging the challenge and not questioning the status quo”



2. Opportunities

Alternate Fiber sources

Support climate goals of the Nation & World

Paper sector can play a vital role in achieving climate goals

Circular economy and Resource Efficiency

Breakthrough Technologies & Innovations

Reduce Production cost & fossil fuel dependency

Diversification in to Biomass Energy

Partnerships among stakeholders

National Carbon credits trading market

Govt, Industry, society, Institutions are coming together

Awareness is building up

Green Manufacturing Practices

Global shift towards sustainability

“In the middle of difficulty lies opportunity”



3. Scenario – Energy, Environment & Water

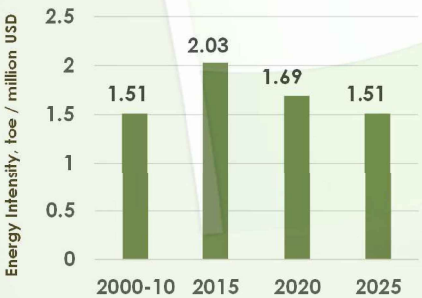


Biomass materials are the main feedstock over the last two-decades.



Improvement have come by way of

1. Production & quality enhancement
2. Energy efficiency improvements & energy switch over
3. Process integration measures – Re-engineering



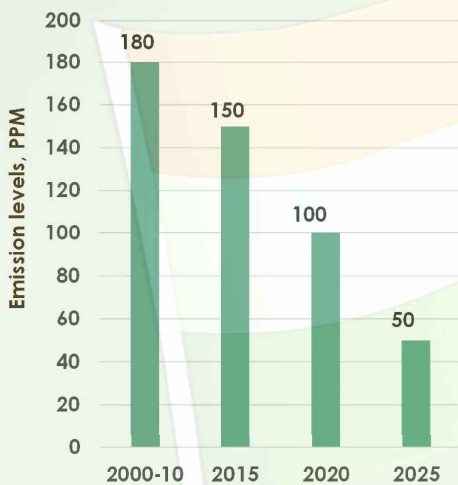
PAT – Flagship program (Unique Scheme)

1. Component of the National Mission for Enhanced Energy Efficiency (NMEEE) which is one of the eight missions under the NAPCC.
2. A regulatory instrument to reduce specific energy consumption (SEC) in energy intensive industries.

“Energy Scenario – Landscape is changing”



3. Scenario – Energy, Environment & Water (Contd...)



Technologies to achieve Emissions level below 30 mg/Nm3



Online Continuous Emission Monitoring System (OCEMS) – for both Emissions / Effluent are mandatory



Business move towards Green manufacturing



Compliance to Environmental, Social, and Governance (ESG)



Tide is turning towards carbon neutral. Goals for 2030, 2050 and 2070.



The ecosystem is evolving & changing very fast

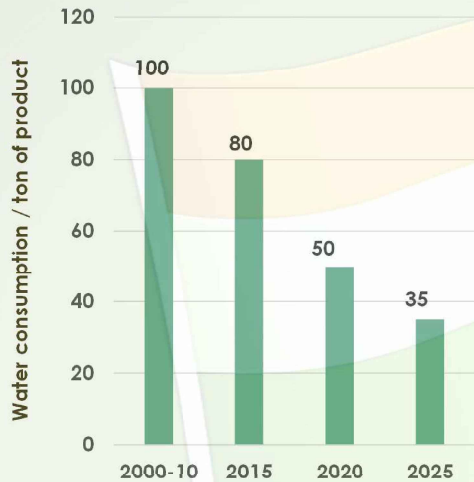


These are enabling us to add good will, to the books of future

“Environment Transformation – Change begins at the end of our comfort zone”



3. Scenario – Energy, Environment & Water (Contd...)

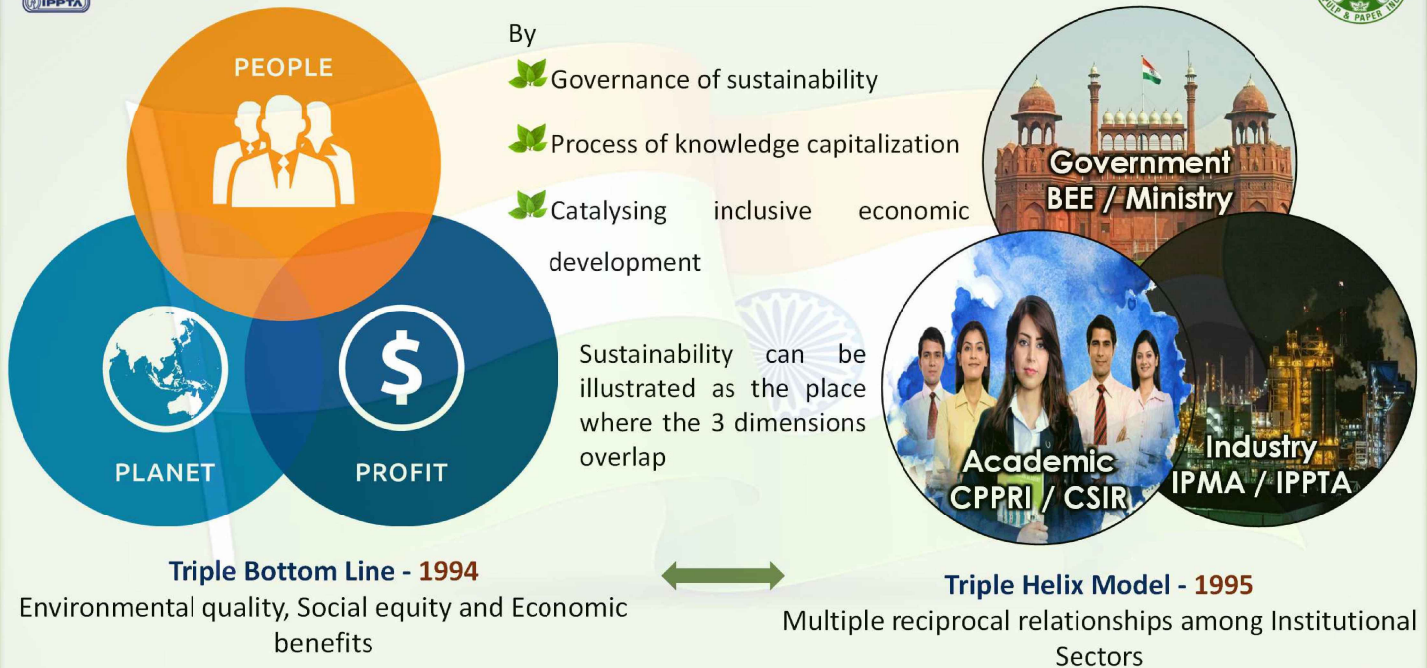


- The average water intake per ton of paper has decreased by 50 %.
- More focus on 3R principles and marching towards ZLD in each unit operations.
- Drastic reduction in fresh water usage
 - Removal of non-process elements (NPE) from chips prior to pulping
 - Reduce fresh water used in pulp washing – Technology & Techniques
 - Improve process modeling tools (engineering)
 - Use of Membrane technologies
- Develop closed-loop water systems

“Water is the driving force of all nature”



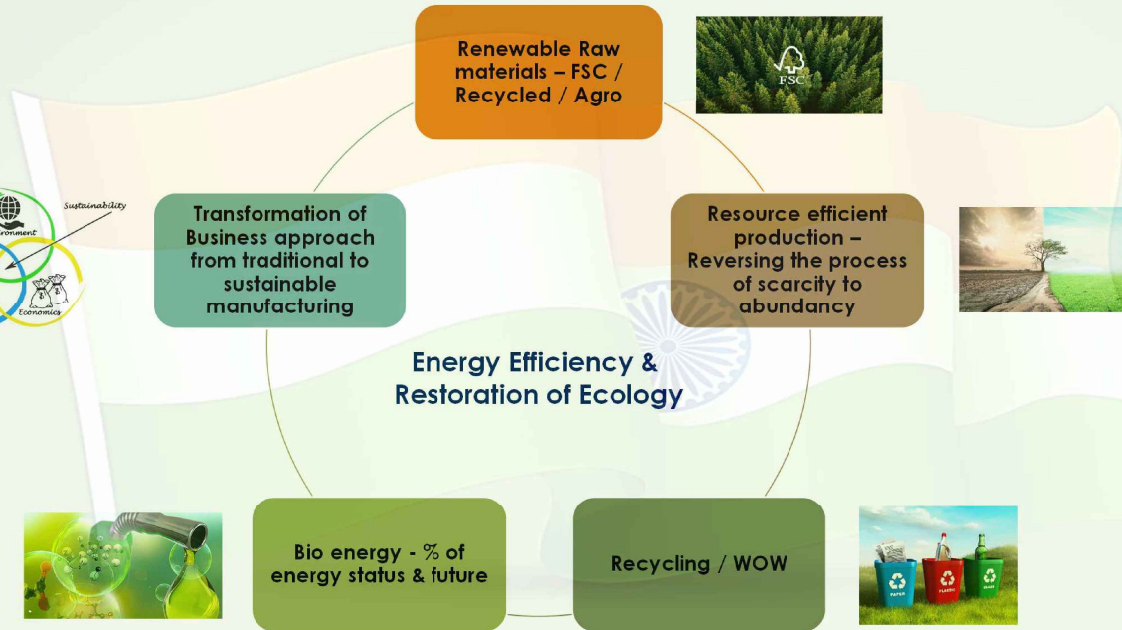
4. Sustainable Approaches – Adopted by Paper Industry



“A Strong Global Economy is sustainable only if it integrates Economic, Social and Environmental well being”



4. Sustainable Approaches – Adopted by Paper Industry



“Transformation of Business from traditional to sustainable manufacturing”



5. Our Manufacturing focuses on





6. The changing future for Paper – Reform, Perform & Transform



Reform

Fundamental changes in existing systems, process or practices to respond to Identified challenges

- To adopt new approaches to improve Performance and Efficiency
- Promote growth of a more efficient and competitive Industrial economy.
- To Import and adopt better Technologies.

Perform

Encourages Excellent execution and Operational efficiency

- Facilitates to deliver high quality products and services
- Stream line supply chains, enhances customer services for better competitiveness and Market Demands

Transform

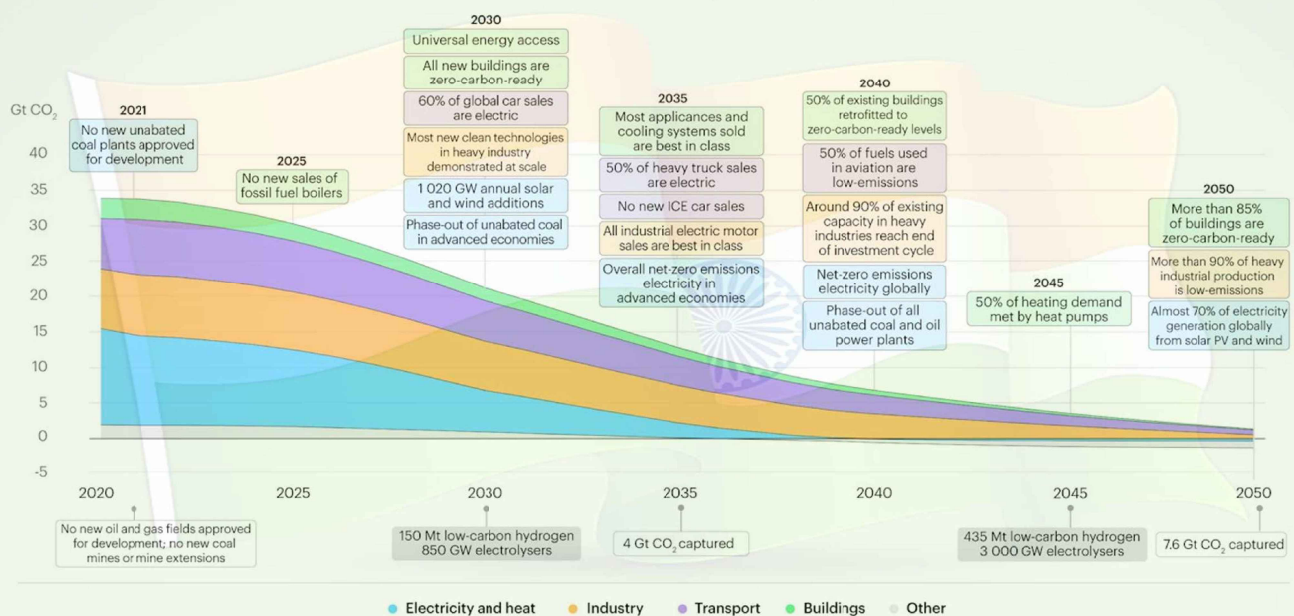
Redefining the core aspects of an Organization

- Embracing Innovation
- Adopting New Technologies and Remaining in Business of Sustainable growth
- Stay a head of Evolving Trends
- Transformation to Digitization, diversified products, sustainable products, no or less environmental impacts

Readiness for transformation towards “Net Zero”



6. The changing future for Paper – Reform, Perform & Transform (Contd..)



Readiness for transformation towards “Net Zero”



7. Expectation from the team

Technology Transfer:

- Gain exposure to advanced technologies and state-of-the-art machinery used in the Japanese pulp and paper industry.

Best Practices

- Understand and adopt best practices in pulp and paper manufacturing from a country known for its efficiency and quality standards.

Quality Improvement:

- Learn about Japanese standards for paper quality and apply this knowledge to improve the quality of paper production in India.



7. Expectation from the team (Contd...)

Environmental Sustainability:

- Explore Japan's advancements in sustainable practices and environmental conservation within the pulp and paper industry.

Networking and Collaboration:

- Explore potential collaborations, joint ventures, or partnerships that can benefit both Indian and Japanese stakeholders.

Market Focus:

- Gain insights into the Japanese pulp and paper market, understanding consumer preferences, market trends, and demands.



7. Expectation from the team (Contd...)

Research and Development Opportunities:

- Collaborate with Japanese researchers on joint projects, fostering innovation and technological advancements.

Employee Training and Skill Development:

- Provide employees with valuable training and skill development opportunities by exposing them to Japanese manufacturing practices.
- Enhance the expertise of Indian workforce, leading to increased efficiency and productivity.



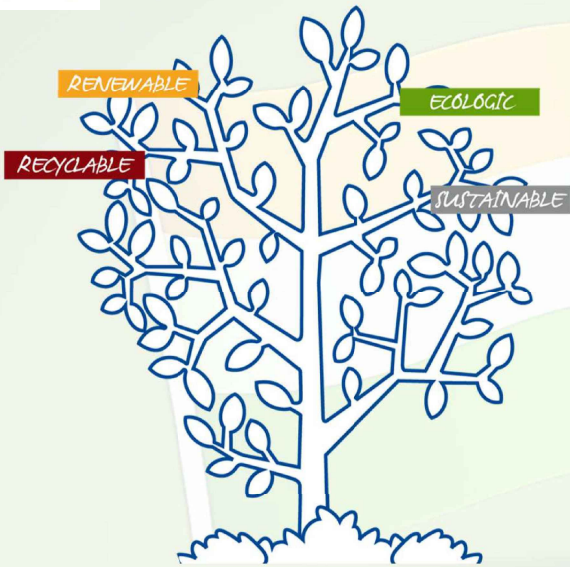
7. Expectation from the team (Contd...)

Cultural Exchange:

- Promote cultural exchange between Indian and Japanese professionals in the pulp and paper industry.
- Build strong relationships that can facilitate smoother business interactions and collaborations.

Global Perspective:

- Develop a global perspective on the pulp and paper industry, understanding international dynamics and trends.
- Apply this knowledge to position Indian pulp and paper products competitively in the global market.



The essence is to work on a holistic approach

- to navigate change
- Optimizing current operations
- Embracing innovation
- Redefining the future trajectory of organizations or industries

For People and Planet

Thank you - ありがとう