

A stylized, colorful illustration of a landscape. The background features wavy, layered bands of light blue and white, suggesting a sky or water. In the foreground, there are rolling green hills of various shades. On the left, a green tree with rounded foliage stands on a dark brown mound. Next to it is a purple flower with a pinkish-purple center. Below the tree, there are orange and red shapes that look like butterflies or flowers. A small red bird is flying in the upper left. The overall style is clean and modern, using flat colors and simple shapes.

# Sustainable Packaging Design – Reducing Packaging Footprint

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V P Marketing  
ITC Limited  
Paperboards & Specialty Papers Division

# Agenda

Packaging – Goals, Functions , Optimum Packaging, Role and Sustainable Packaging

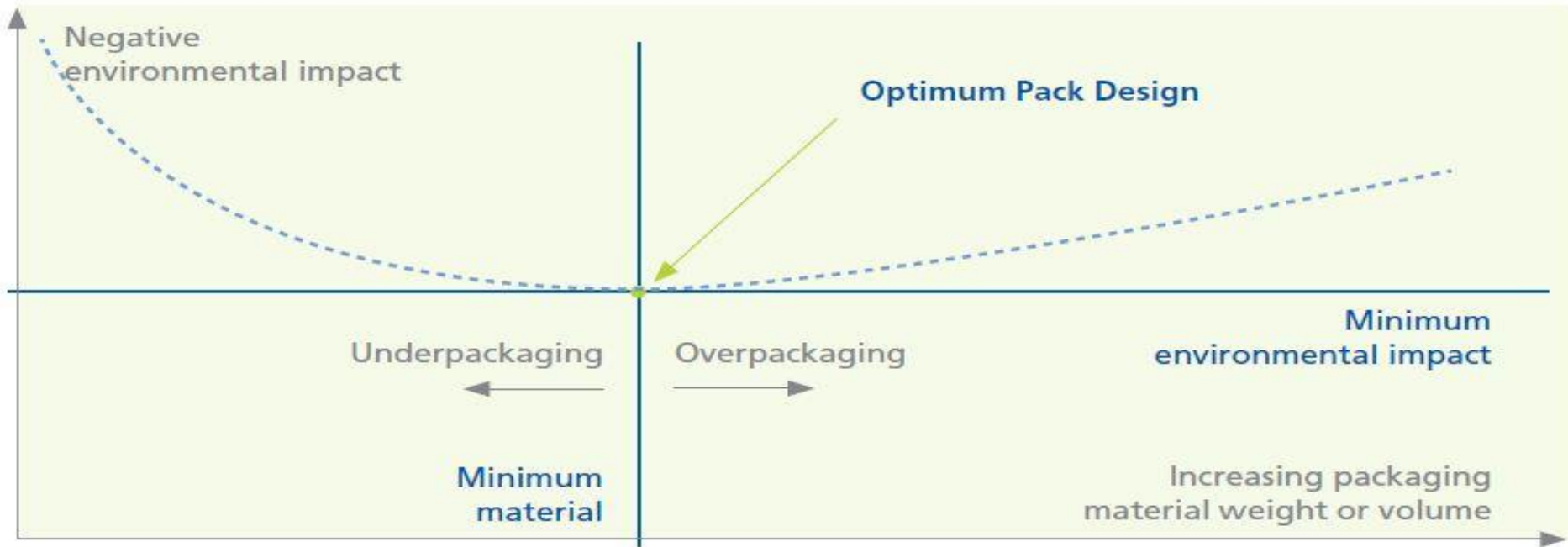
Sustainable Paperboard Packaging – The ITC Way

Consumer's View of Green Packaging and Ten Tips for Sustainable Packaging Design

# Functions of Packaging



# Optimum Packaging



This "Innventia AB" model shows that the environmental consequences of product losses caused by excessive packaging reduction are far greater than guaranteeing adequate protection through an incremental excess of packaging

# Role of Packaging

*Environmentally – saves more resources than it uses*

*Economically – reduces cost of distribution and merchandising*

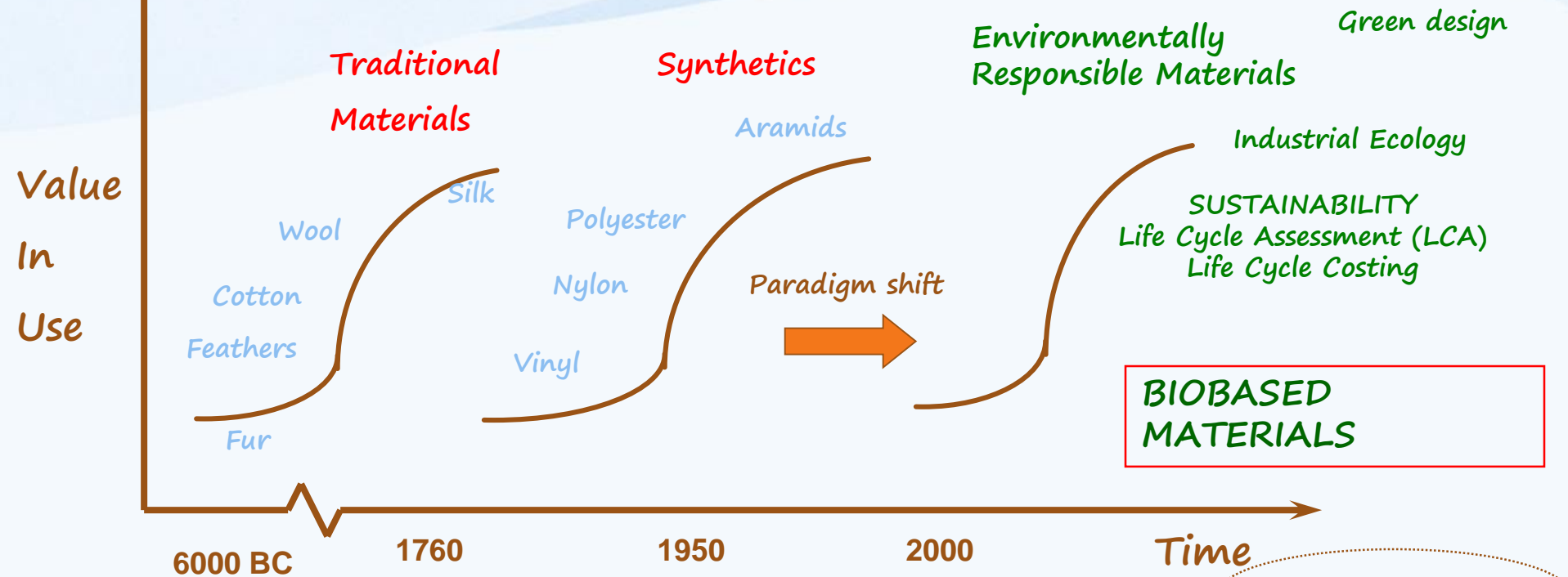
*Socially – meets consumers' expectations on product protection, safety, handling & information*

*Source : PWC study : Sustainable Packaging – Myth or Reality , 2012*

# What is Sustainable Packaging ?

- Designed holistically with the product in order to optimize overall environmental performance - an LCA approach
  - Made from responsibly sourced materials
  - Manufactured using clean production technologies
  - Efficiently recoverable after use
  - Sourced, manufactured, transported and recycled using least and preferably renewable energy
  - Able to meet market criteria for performance and cost
- Source : The Consumer Goods Forum - A Global language for packaging and sustainability , 2011

# MATERIALS FRONTIER - DRIVERS FOR MATERIALS TECHNOLOGY SHIFTS



- Natural Ingredients
- Labor Intensive
- Attractive Aesthetics

- Cheap petroleum
- Ease of manufacture
- Low labor input
- Excellent functionality

- Biodegradable
- Bio based (renewable resource)
- Recycling friendly
- Non-polluting
- Energy efficient
- Tailored Functionality

# Packaging Goals

WAL\*MART



## Packaging Goals (The 7 R's)

- Remove
- Reduce

- Reuse
- Recycle

- Renew
- Revenue

•Read – Learn About Sustainability

## Packaging Scorecard Metrics

- GHG/CO<sup>2</sup>
- Transportation
- Cube utilization
- Renewable energy

- Product/Package
- Recovery Value

- Material H & S
- Recycled Content
- Innovation



# Sustainable Paperboard Packaging The ITC Way

## Sustainable Packaging- Key Parameters

1. Raw material source
2. Production Technology
3. Energy & Water
4. Designed holistically with the product
5. Post use recovery

## The ITC Way

1. Responsibly managed plantations
2. Clean manufacturing and effluent treatment processes
3. Alternative energy sources
4. Customer - Collaborative approach to design
5. Collection and Recycling
6. Measuring and Reporting

# Responsibly managed plantations

Vegetatively propagated, soil type customised, high yielding saplings have been distributed under two models : Social and Farm Forestry

## SOCIAL FORESTRY

Saplings provided free of cost to small tribal farmers

Wood bought back by ITC at prevalent market rates.

Includes 18% of the total plantation cover.



**1,42,000  
Hectares  
covered as on  
31<sup>st</sup> March  
2013**

## FARM FORESTRY

Saplings sold to large farmers who own lands.

Wood bought back by ITC at prevalent market rates.

Includes 82% of the total plantation cover.

# Responsibly Managed Plantations...

## The Rainforest Alliance

ITC LIMITED - PSPD UNIT BHADRACHALAM  
SARAPAKA - 507 128 KHAMMAM DISTRICT  
ANDHRA PRADESH  
INDIA

IS CERTIFIED FOR FOREST STEWARDSHIP COUNCIL  
FOREST MANAGEMENT AND CHAIN-OF-CUSTODY

### Certificate Scope

Certificate Type: Group Forest Management and Chain-of-Custody

Standard(s): FSC-STD-30-005 V1-0; SW Interim Regional FM Standard for  
Assessing Forest Management in India version September 2011

Product group(s): Logs

Valid from February 22, 2012 to February 21, 2017

Certificate Registration Code: SW-FM/COC-005808

FSC License Code: FSC-C102390

Certificate Issue Number: IN-2012-1

As a group certificate, the activities and products included in the scope of this certificate are performed by a network of participating group members. Additional details regarding the scope, including a full list of products and species, are available at [info.fsc.org](http://info.fsc.org).

*Jon Jickling*

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• Forest Stewardship Council (FSC) is an NGO established to promote the responsible management of the world's forests.

• FSC has become the international standard for fiber sourcing

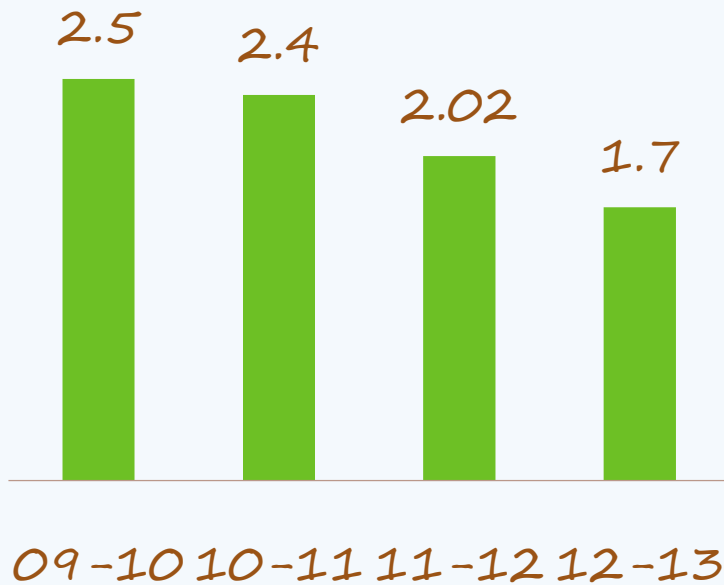
• All our Units have FSC Chain of Custody certification and 8000 Ha of plantations have been certified under FSC – Forest Management. Another 15,000 Ha are being added this year

# Clean Processes...

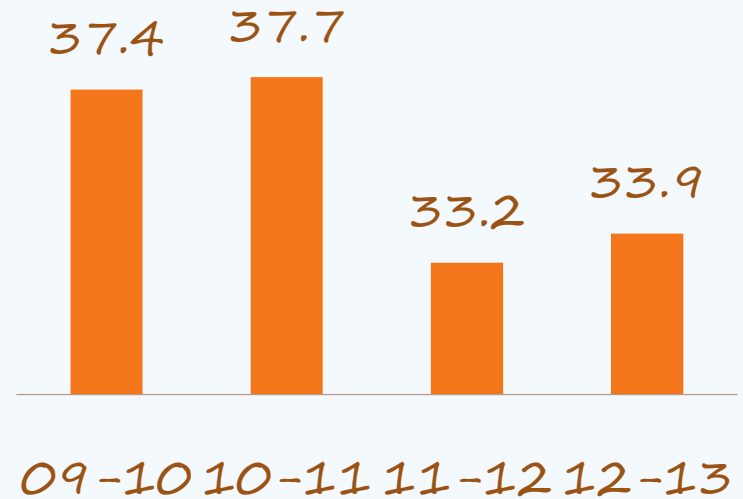
- Pulp bleaching process – Elemental Chlorine free technology: most prevalent and mandated by law
  - Implemented by ITC before regulation
- Ozone Bleaching: currently being used by ITC
- Continuous technology improvements to reduce specific consumption figures for water and energy.

# Clean Processes - Unit Bhadrachalam

CO<sub>2</sub> Emissions in  
tons / ton of output

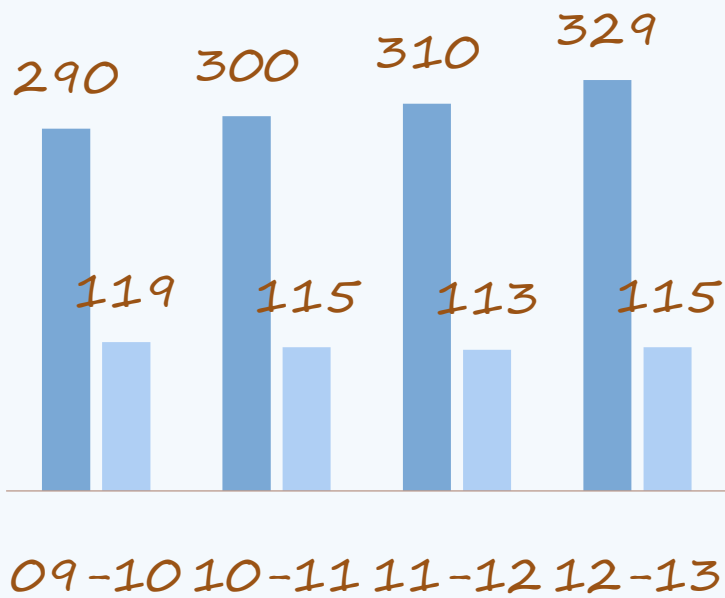


Specific Energy  
Consumption in GJ  
/ ton of output

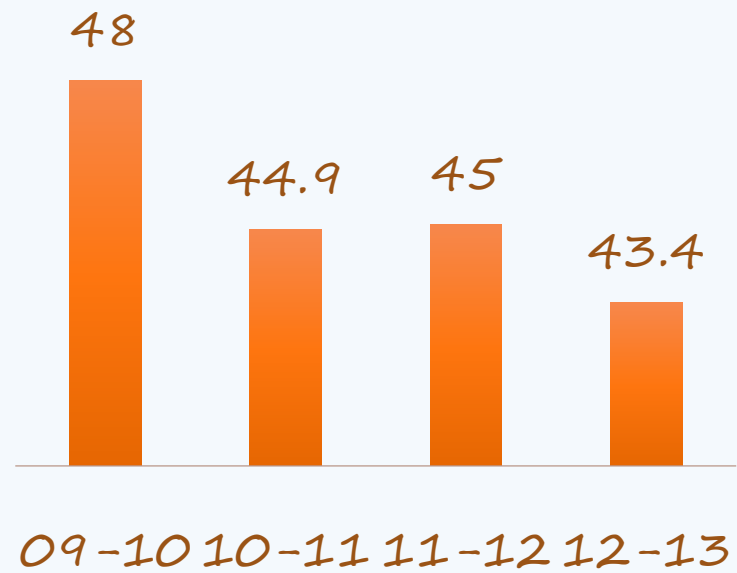


# Clean Processes ...

■ Normalised Production  
■ Fresh Water Intake



Effluent in KL / Ton  
of output



# Renewable Energy

- Biofuels fired green boilers
- Wind Energy generation of 7.5MW in Unit Kovai (11-12) and a 46 MW plant planned in Anantapur, AP (14-15)
- Printing and Packaging business has commissioned a 14.1 MW wind energy plant in Chennai (11-12)
- In 2012-13 , 48% of the Paperboards & Specialty Papers Division's energy requirement was generated from renewable sources
- By 2014-15 this is expected to touch 52%



# Customer collaborative approach – few case studies

## FMCG CARTON

Substance Reduction across five years :

Small SKUs : 12%

Mid SKUs : 16%

Large SKUs : 13%

No damages reported and current market share > 50%

## BEVERAGE PACKAGING

- Started with Information exchange on all KPIs , leading to
- Substance Reduction by 10 % on all SKUs
- Optimised Loads – reduced CO2 emissions
- Commenced supplies of FSC certified boards from this quarter



# Collaborative approach ...

## LEADING PHARMACEUTICAL COMPANY

- The Manufacturer sought to reduce specific emissions attributable to their packaging.
- Packaging substrate based emissions calculated and matched to product needs



## MOBILE PHONE CARTONS

- 95% packaging from renewable, paper-based materials, 60 % recycled content.
- Cartons – rightsized and transport vehicles cut down to half in 60% deliveries.

# Innovations ( working on )

- *Barrier Boards – Paperboards laminated or extrusion coated with fossil based polymers for heat sealability, moisture / grease resistance*
- *On disposal the polymers do not degrade and the substrate cannot be easily recycled leading to landfills*
- *Working on – Bio based and dispersion coated barriers*
  - *Bio based – both the paperboard and the bio based barrier will degrade in a composting environment*
  - *Dispersion Coatings – Paperboards with dispersion coatings can be processed in existing recycling mechanisms and the recovered fiber can be used for paper making*



# Paper cups with bio based coatings – stages of composting



**Stages of  
Biodegradable cups  
composting**

Source : Harita NTI

# End of Life Disposal

- Waste Management

- The Wealth out of Waste program is our initiative to share good practices in efficient waste management, source segregation and recycling with households, schools and corporate bodies.
- WOW collects and recycles about 3000 Tons per month of waste today. A recent initiative in schools in A.P to exchange waste paper for brand new ITC stationery was a grand success!
- Current waste paper recovery rate in India is low at 20%
- Working on Private-Public partnerships in monetizing and expanding the recovery market. Ex. Hyderabad & Bangalore municipalities

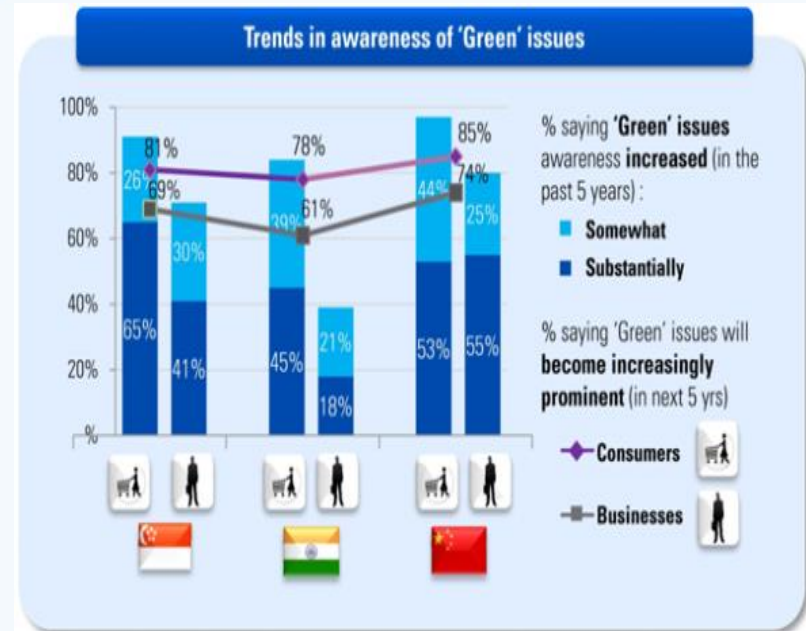


# Measuring & Reporting

- *Companywide – Sustainability Report – Global Reporting Initiative – G 3 at the highest compliance application level of A +*
  - *The 2012 report is the 9<sup>th</sup> consecutive year of reporting*
- *Unitwise – Unit Bhadrachalam of the Paperboards and Specialty Papers Division is the largest integrated paperboard manufacturer in the country*
  - *Only unit in the industry to be “ Greenco Gold “ rated*



# TUV SUD Green Gauge 2010 Survey : Consumer's View



- Green certifications and labeling is rated 4th in the consumer purchase decision!
- 45% consumers felt that green awareness has increased substantially over the past five years and 78% feel it will become increasingly prominent over 2015
- Sustainability initiatives till now are mainly industry driven, but a clear change is visible, where customers are demanding a 'greener' supplier

# Ten tips for sustainable package design

Take a Life Cycle Approach to packaging design

Evaluate each component of the package

Consider new alternatives for distribution packaging

Explore re-usability

Explore Product changes

Whenever possible design for recyclability

Package in a manner that encourages full product consumption

Know the source of your packaging materials

Evaluate the distribution system for space saving opportunities

Consider materials made from renewable sources



Thank You

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