Sustainable packaging - a global perspective

The packaging context
Globalisation
Sustainability
Challenges and future issues

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General Secretary, WPO
Sustainability & Foresight, FMM
STFI-Packforsk – Pulp, Paper, Printing and Packaging Research

Research Fields

STFI-Packforsk is one of the world's leading R&D companies in the fields of pulp, paper, print and media, together with packaging and logistics.

All research has user value as its focal point.

WPO history

Founded September 6, 1968 in Tokyo by visionary leaders from the global packaging community

WPO is a not for profit, non-governmental, international federation of national packaging institutes, associations, regional packaging federations and other interested parties including corporations and trade associations

40th Anniversary

Presidents

1968-1972, Mr F. J. Briggs, UK
1973-1975, Mr K. S. Lo, Hong Kong
1976-1978, Mr Robert W. Coughlin, USA
1979-1982, Dr Enrique Schcolnik, Argentina
1983-1983, Mr Reiji Kato, Japan
1984-1989, Mr Pierre Schmit, France
1990-1996, Mr Gerald K. Townshend, UK
1997-1999, Mr Raul C. Hernandez, Philippines
1999-2003, Mr Sergio Haberfeld, Brazil
2003-2006, Dr Alexis Stassinopoulos, Greece
2006- , Mr Keith Pearson, South Africa

Mission- Better quality of life through better packaging for more people

Serving the global packaging community through national and regional packaging institutes and associations

Promote innovation

Promote benefits of packaging

- commercial
- ecological
- social

Distribution of knowledge

- Education

WPO tools and activities

WorldStar Award
WorldStar Student Award

Education projects,

- Kenya, Oct/Nov 2002
- Ghana, Nov 2003
- Tunisia, Dec 2004
- Sri Lanka, Apr 2005
- Nigeria, Feb 2006
- India, Mar 2006
- Tunisia, Dec 2006
- India-UK
- Tunisia
- Sri Lanka
- Uganda

Meetings, seminars
www.worldpackaging.org
Global Packaging Market Statistics

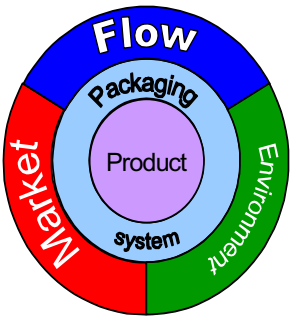
Packaging system

Have a holistic view of the functions of the packaging, from filling to end-of-life.

- Efficient in distribution
- Effective use of resources
- Adopted to users

Packaging is multi-functional

.. a materialised service



In various contexts…
(Developed) Retailing today

Wal-Mart's wide aisles and broad selection of merchandise accommodate 100 million shoppers a week.

Picture source:
Wal-Mart

Packaging enables new lifestyles and consumption patterns

Consume Everywhere, Anytime !

Picture source: Tetra Pak AB

emerging markets retail

Developing retail

Eco-cycle society – adopt to culture and infrastructure

Packaging materials in new applications

Emerging markets- (recovery) logistics challenges

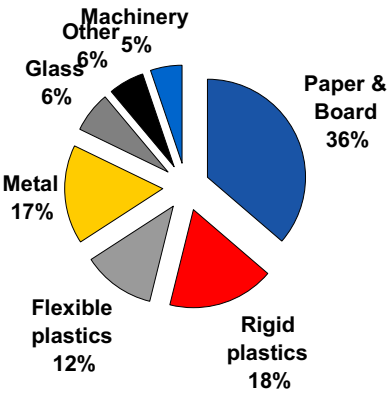
Is Packaging… just an **on-Cost**, or…
an **Investment**?

Source: ITC

Just Protect and Preserve, or…
Profile, Differentiate, and Communicate?

Source: ITC

The global packaging market 2004 – total 485 Bn USD



Source: Pira International/WPO, The future of global packaging, 2005

Forecast World packaging by region

US$ million	2004	2009	CAGR (%) 2004-2009
Western Europe	124,594	138,274	2.1
Eastern Europe	27,422	38,338	6.9
Middle East	14,875	25,528	11.4
Africa	11,544	15,789	6.5
North America	134,901	148,666	2.0
South & Central America	16,669	23,939	7.5
Asia	122,655	165,883	6.2
Oceania	6,603	7,430	2.4
World	459,263	563,847	4.2

Source: Pira International/WPO, The future of global packaging, 2005

Forecasted packaging growth – Top 12 countries

US$ million	2004	2009	CAGR (%)
Turkey	4,100	9,896	19.3
India	6,913	13,412	14.2
Poland	3,643	6,151	11.0
Philippines	1,115	1,772	9.7
Brazil	7,828	12,328	9.5
Indonesia	4,973	7,606	8.9
China	34,663	51,415	8.2
Egypt	761	1,123	8.1
Lithuania	285	407	8.1
Argentina	1,824	2,673	7.9
Russia	13,290	18,520	6.9
South Africa	3,840	5,296	6.6

US$ million	2004	2009	CAGR (%)
World	459,263	563,847	4.1
UK	18,851	21,829	3.0
Sweden	2,394	2,710	2.6
USA	114,789	126,259	1.9
Japan	54,541	59,014	1.6
Germany	23,145	24,979	1.5

Source: Pira International/WPO, The future of global packaging, 2005

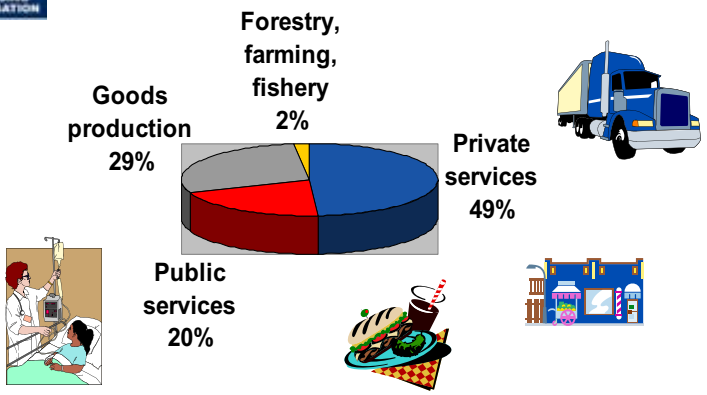
GDP a measure of economic wealth

Packaging constitutes typically 0,5-2,5 % of GDP

Low share

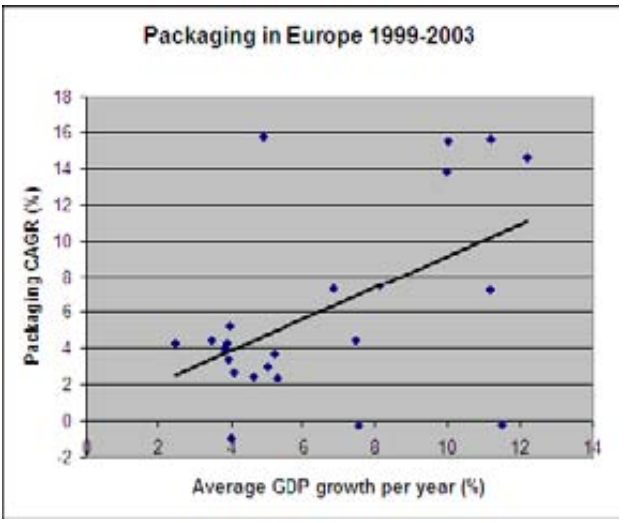
- Countries with high standard of living and high consumption of services e.g. Switzerland
- Countries with trade, oil or raw material based economies, e.g. Russia

GDP in Sweden – an example



Packaging influences output and productiv
in well over 50% of the total economy

Strong correlation between GDP growth and packaging growth



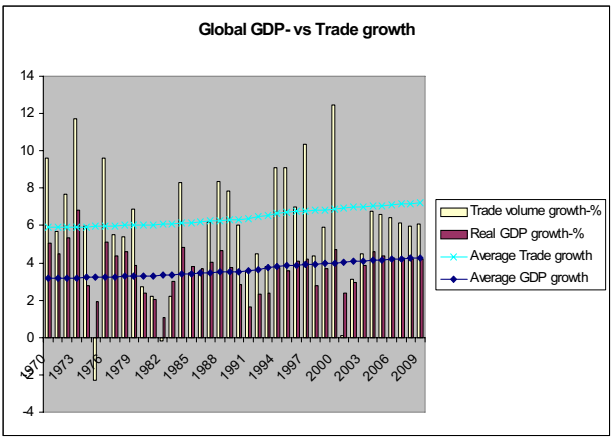
GDP growth and Packaging growth - observations

High GDP growth emerging markets
- Packaging growth exceed GDP
- Packed Foodstuffs
- Industrialisation is base for growth

Low GDP growth mature markets
- Packaging growth below GDP
- Service sector
- Manufacturing is moving to low-cost countries

Material substitutions are constantly taking place both in low and high GDP

Trade and GDP correlated – supported by packaging



Source:
IMF 2004-04

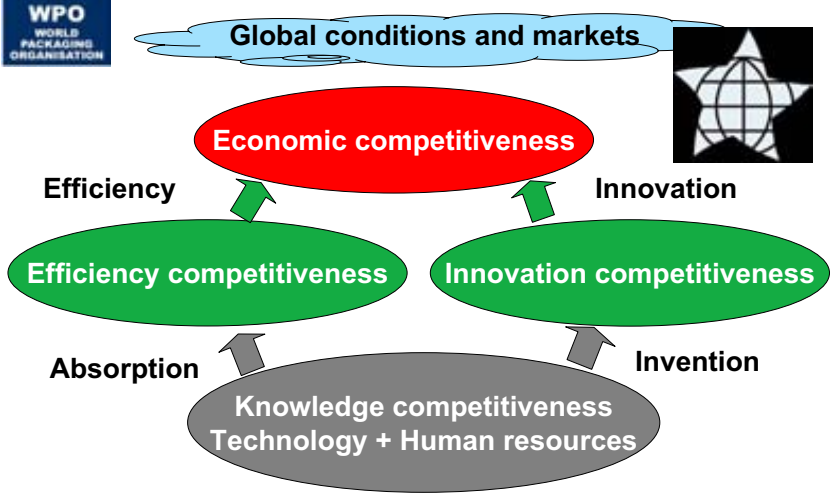
Globalisation is the "name of the game" - Competition at all levels

Regions
Nations
Cities
Villages
Companies
Associations
Universities
Schools
Individuals
……

Products
Services
Packaging
Materials
….

$$

Competitiveness model



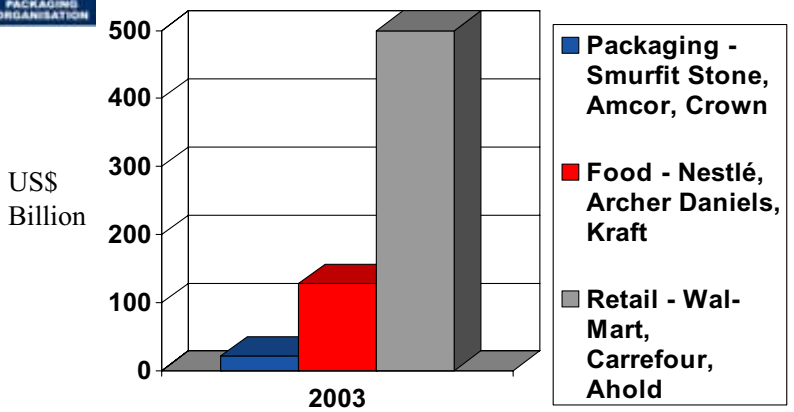
Source: Adapted from Göran Marklund, 2005

Globalisation – many dimensions, some conclusions

Retail

- Wal-Mart, Carrefour and Ahold, turnover 500 Bn USD (approx. global packaging turnover)
- Own label
- Increasing packaging importance
  - display packaging
  - supply chain efficiency– RFID etc

Not on equal terms – Turnover for sector top 3



Globalisation – the bright side

Share of people in developing countries with income of less than 1 US$/day – 33 % 1984, 18%, 2004

In east Asia – 39 %, 1984, 9 %, 2004

Growing middle class

Average life time increasing

Population growth slowdown

Education level increasing, Analfabetism decreasing

Open countries have higher growth

Democratic countries increasing

..but watch out!

Sudan syndrome, climate change de-forestation, violence, poverty

Late 19th century was a period of strong globalisation -migration, trade

Development disrupted by the wars and a long period of protectionism

Will current globalisation trend be disrupted by
- regional conflicts
- terrorism
- clash of civilisations
- scarce resources, e.g. oil and water
- food crisis
- social unrest

Rio 1992, Johannesburg 2002….

Sustainable development and growth
- economically
- ecologically
- socially

A challenge is to break the relation between economic growth and increased waste production

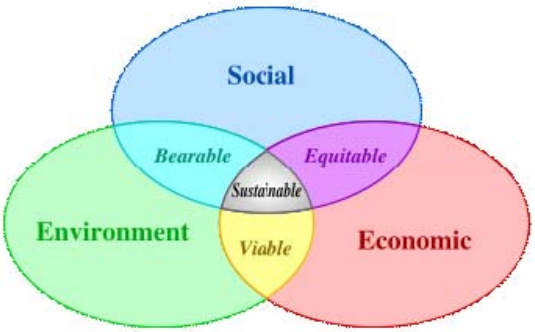
Johannesburg
- Social responsibility
- Global trade

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

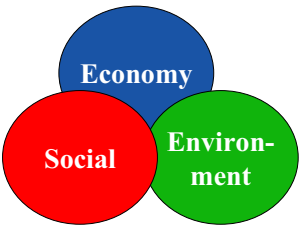
Brundtland Commission

How can packaging contribute?

Sustainable Development



Sustainability yes, but where is the future focus?



00´s: economy
10´s: social
20´s: economy
30-40´s: social
Late 40´s-mid 60´s: economy
Late 60´s-70´s: social and environment
80´s: economy (real estate)
90´s: environment, economy (IT)
2000´s: social (safety, CSR) economy (emerging markets)
Bio-economy
Environment (emerging markets)
Climate change
Carbon footprint

Carbon footprint

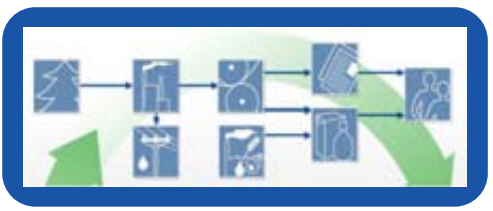
climate change has brought this issue to the fore

Customers want a simple and credible statement

(in principle a sub set of an LCA)

The core element is a holistic view and knowledge of the value chain

Energy carriers
Fuels, Electricity



Global warming gases
CO_2, CH_4, N_2O, etc.

Carbon footprint is the overall amount of carbon dioxide and other greenhouse gas emissions associated with a product.

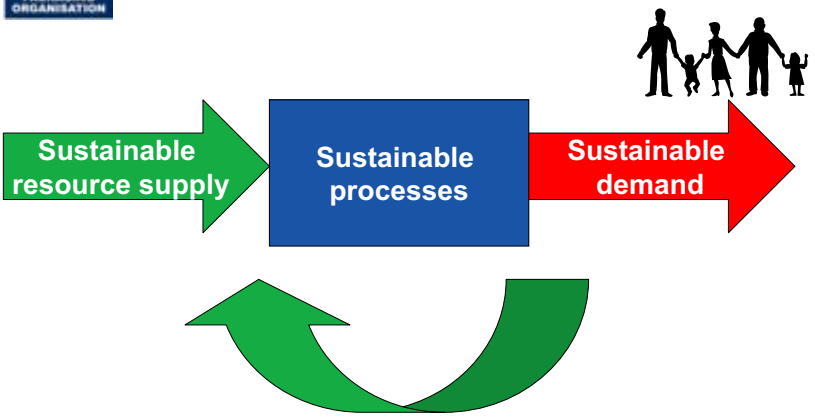
“Get the most out of this”

The best thing for companies is to maximise the benefits of work in Carbon footprint by providing customers and other stakeholders with broader life cycle information related to their products and for internal purposes such as:

- to identify hot-spots along the supply-chain, potential risks and opportunities for related improvements
- to avoid shifting burdens to other types of environmental impacts
- to anticipate upcoming demands in the context of “Sustainable Consumption and Production”, a core commitment of the European Commission.

2007, EU Commission

Sustainability ”in simple terms”

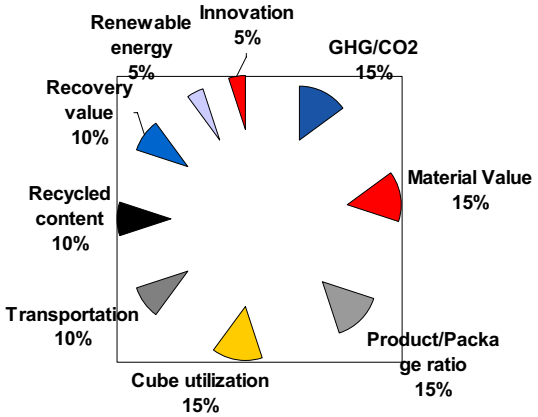


Wal-Mart´s packaging scorecard

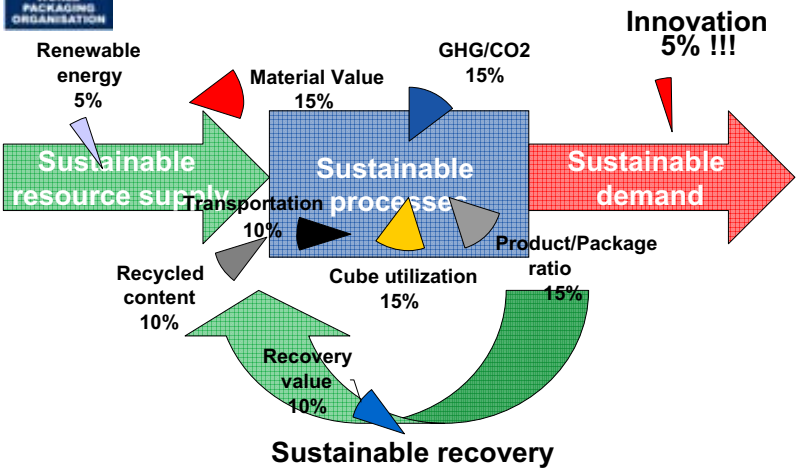
7 R´s of Packaging
Remove
Reduce
Reuse
Recycle
Renew
Revenue
Read

Right functionality?

Scorecard metrics



Scorecard Metrics in Sustainability model



***Sustainable* packaging…**

Is beneficial, safe & healthy for individuals and communities throughout its life cycle;

Meets market criteria for performance and cost;

Is sourced, manufactured, transported, and recycled using renewable energy;

Maximizes the use of renewable or recycled source materials;

Is manufactured using clean production technologies and best practices;

Is made from materials healthy in all probable end of life scenarios;

Is physically designed to optimize materials and energy;

Is effectively recovered and utilized in biological and/or industrial cradle to cradle cycles.

– Sustainable Packaging Coalition

The Packaging Sustainability Credo

We believe that by successfully addressing these criteria, packaging can be transformed into a cradle to cradle flow of packaging materials in a system that is economically robust and provides benefit throughout the life cycle – a sustainable packaging system.

– Sustainable Packaging Coalition

Brundtland commission 1987

Development

that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Brundtland Commission

Sustainability challenges

Society level
- -Fight poverty
- -Education
- -Democracy
- -Social unrest
- -Aging population
- -Population growth

Packaging will always be needed,

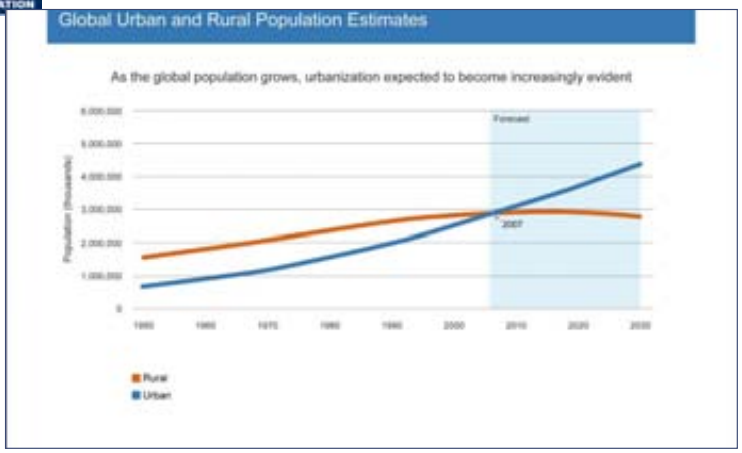
but what types, materials and designs?

What will be the image of the packaging industry?

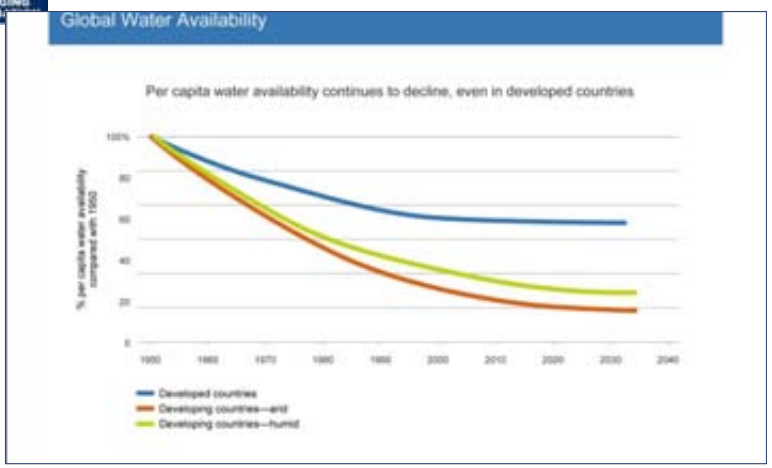
Median age development

Country/Region	1950	2005	2050
World	23,9	28,1	37,8
South Korea	19,1	35,1	53,9
Italy	29,0	42,3	52,5
Japan	22,3	42,9	52,3
Poland	25,8	36,5	50,8
China	23,9	32,6	44,8
Sweden	34,3	40,1	43,9
UK	34,6	39,0	42,9
US	30,0	36,1	41,1
Argentina	25,7	28,9	40,3
Brazil	19,2	26,8	40,3
India	20,4	24,3	38,7
Egypt	20,0	22,8	35,7

Source: UN



Source: World Economic Forum



Source: World Economic Forum

Future packaging

Innovative, pull driven & sustainable

Thank you !

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www.stfi-packforsk.se
www.worldpackaging.org