



The European Man-made Fibres Industry; Global Challenges

76th congress ENSAIT

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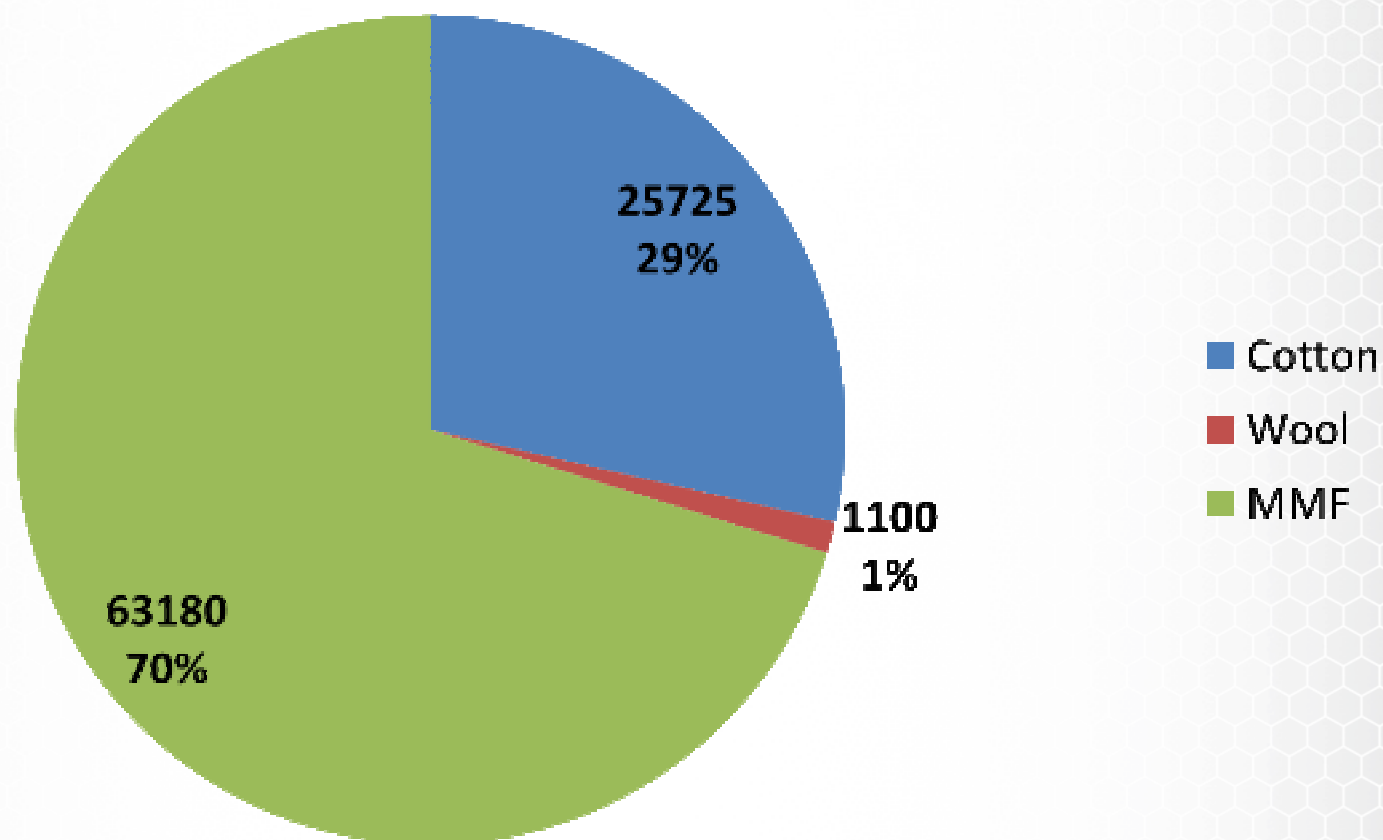
Roubaix, France, October 9, 2014

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1. Situation - Evolution
2. Opportunities
3. Challenges in Europe
4. Sustainability
5. Role of CIRFS and Conclusions

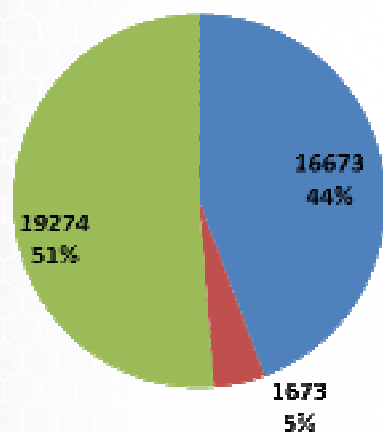
Man-made Fibres are Leading

World fibre production 2013 : 89.5 million tonnes

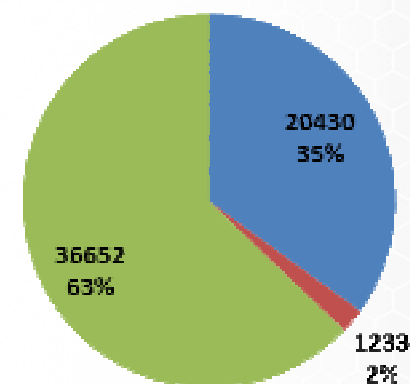


The World Share of Man-made Fibres is Growing

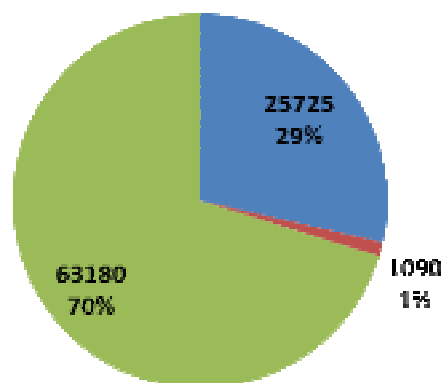
1993



2003



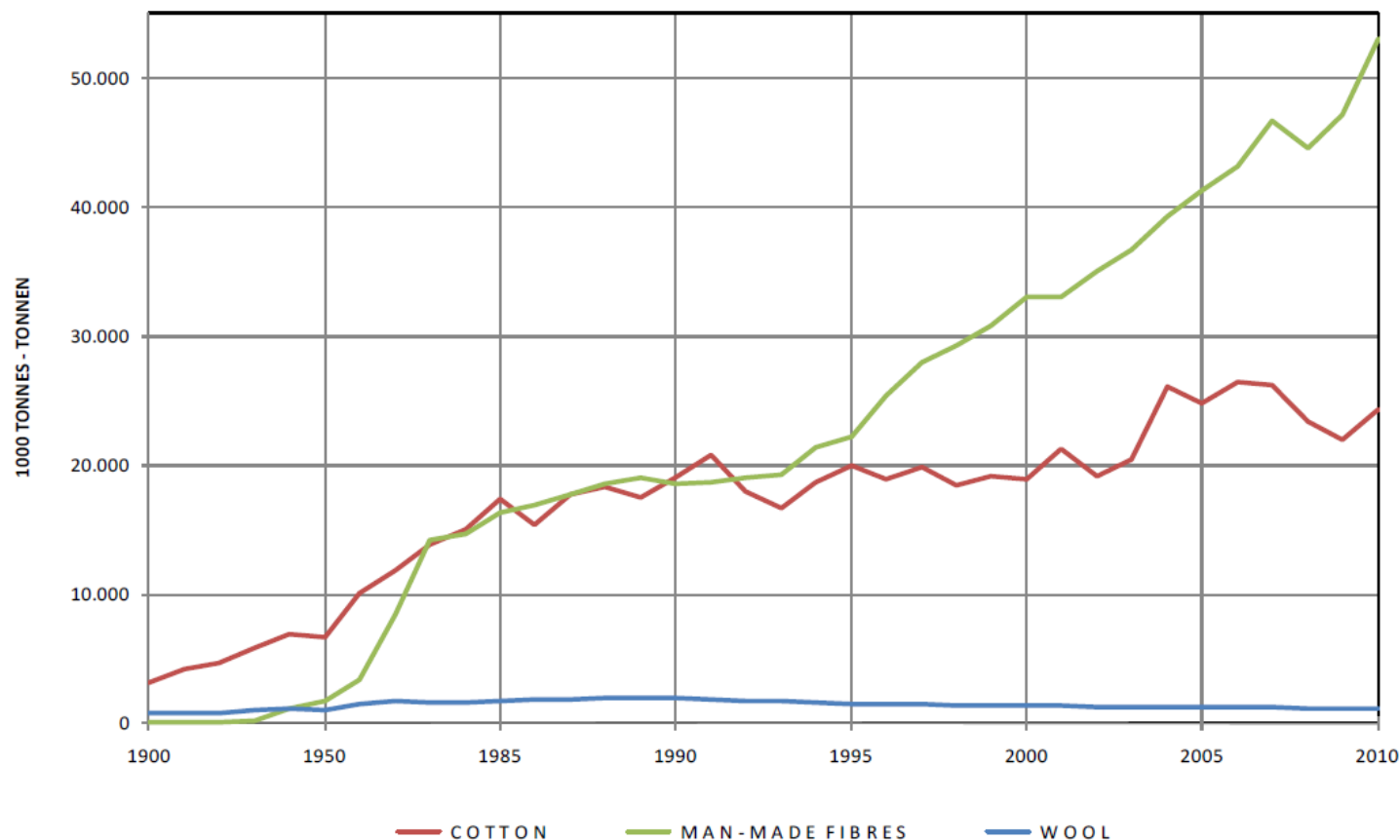
2013



■ Raw cotton
■ Raw wool
■ Man-made fibres

World production of cotton, wool and man-made fibres

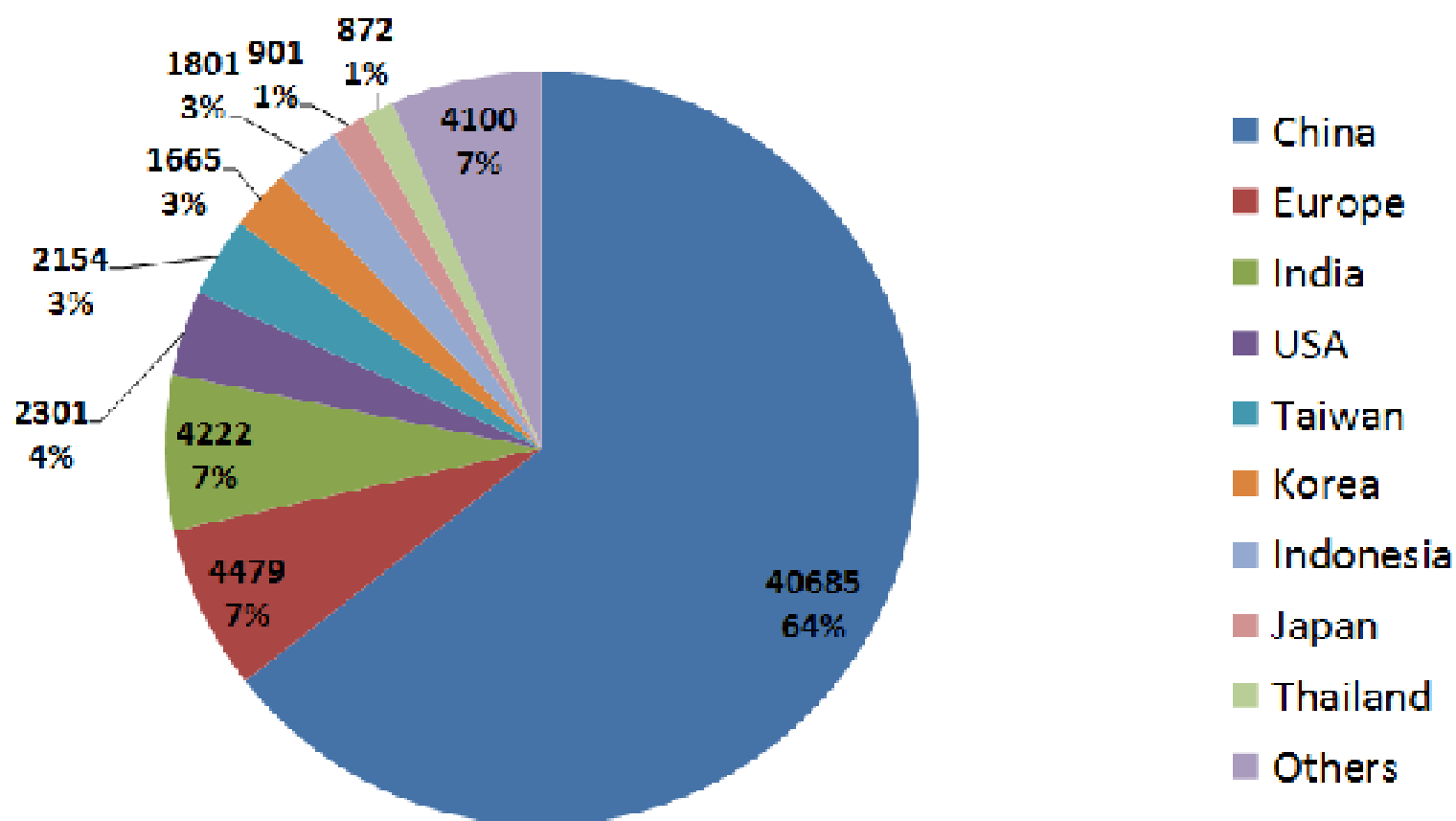
1000 Tonnes



CIRFS Statistical yearbook 2011

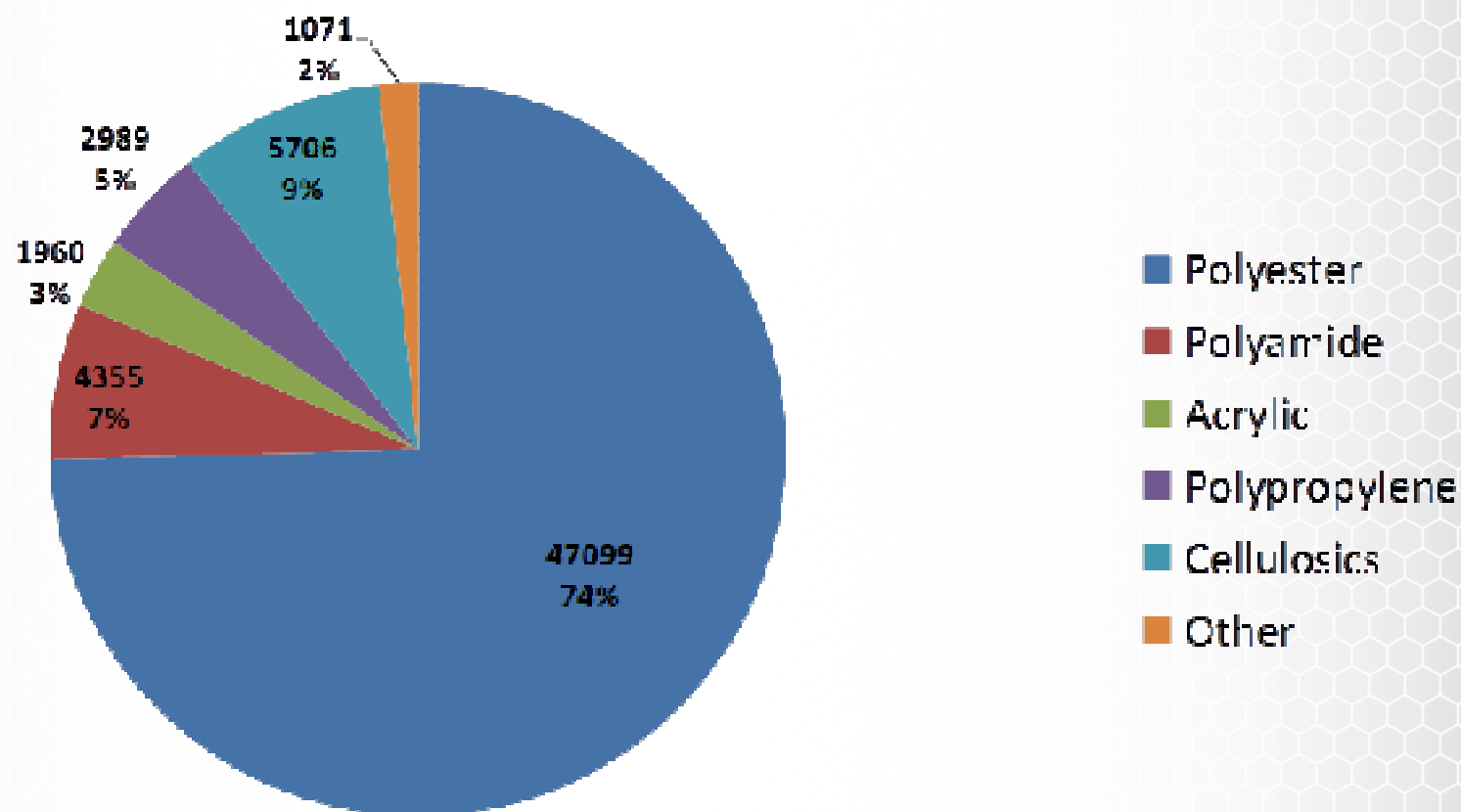
China is the Main Producer, followed by Europe

World man-made fibres production 2013:
63.2 million tonnes



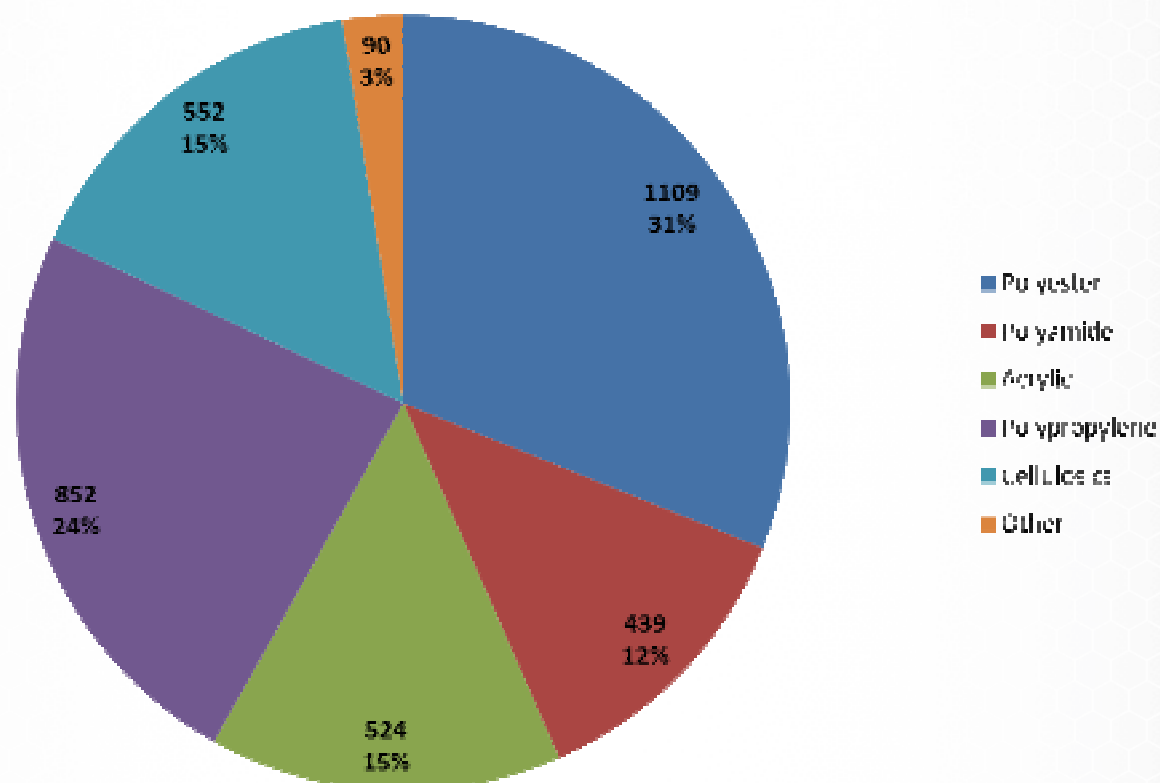
Polyester is Dominating the Fibre World

World polyester fibre production 2013:
47.1 million tonnes



European Production is more Balanced

European man-made fibre production 2013:
3.7 million tonnes



The European MMF Industry has a lot of Strengths

- All EU producers constantly innovate. Flexibility of European production units makes experimentation and small-scale product runs easier
- Creativity, innovation and new thinking are part of European culture – with a unique network of institutes, universities and research centres, and support from national and EU authorities (EU Technology Platform)
- European products are of excellent quality - maintenance standards are high
- European industry is the cleanest and the most resource-efficient in the world and is further improving its sustainability record
- Company structure are efficient, competitive on a world-wide level
- Production is specialized, adaptable and highly flexible

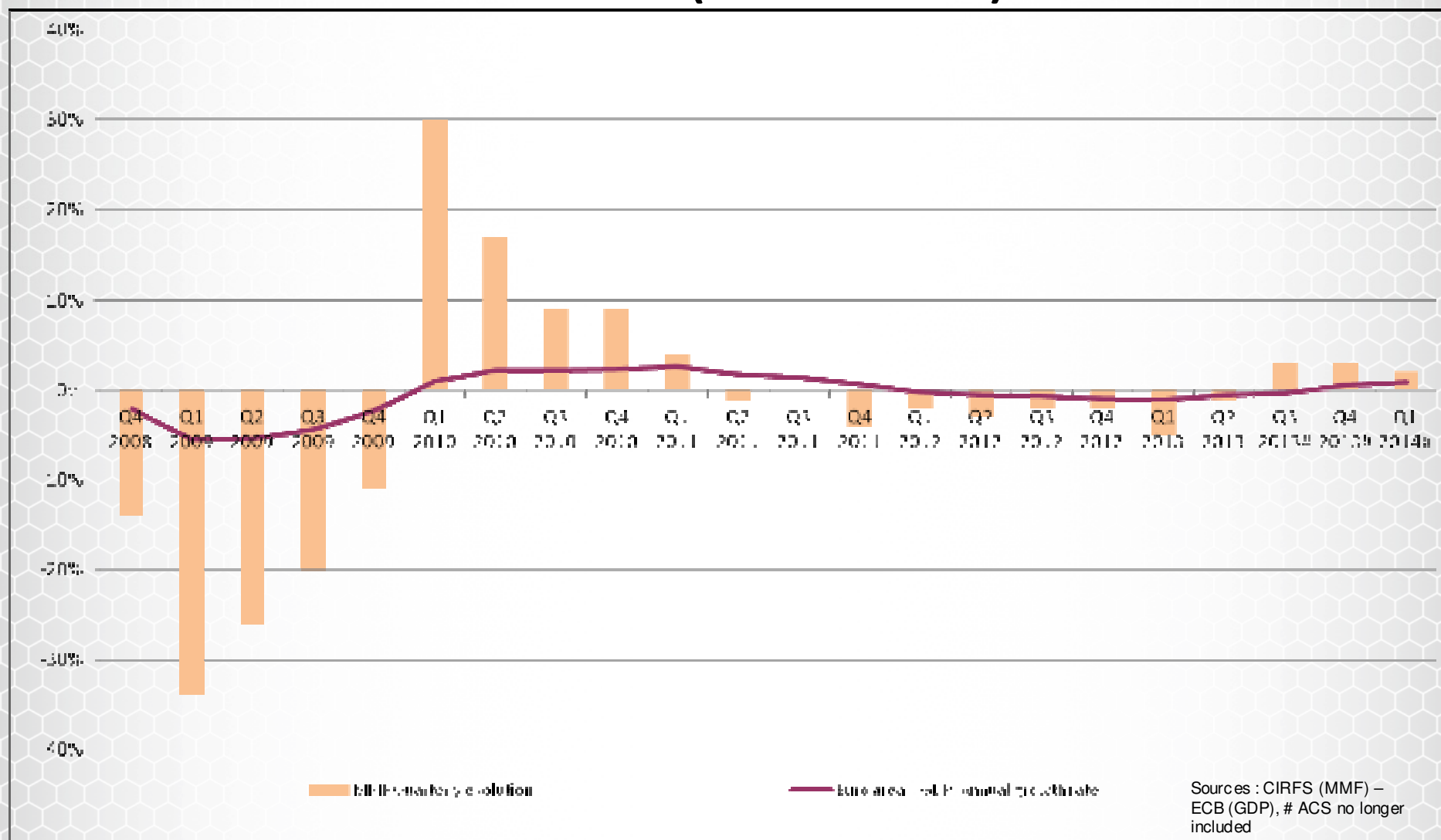
But many Challenges Exist

- Some of them, more global are also affecting other parts of the
- Others are typically European
- And sometimes 'home-made'...
- The challenges are:

Economic Climate

- The MMF industry is strongly influenced by developments in the economy worldwide
- Such as the past recession in Europe and other parts of the world
- Originating from a financial crisis, resulting in a credit crunch for businesses and consumers
- And leading to public debt reduction programmes with higher taxes and spending cuts
- With less disposable income, reduced consumer spending, unemployment
- And consequently weak domestic demand in consumer and industrial markets
- But -fragile- recovery has started and should further consolidate

Quarterly Changes in European Man-Made Fibre Deliveries (Year on Year)

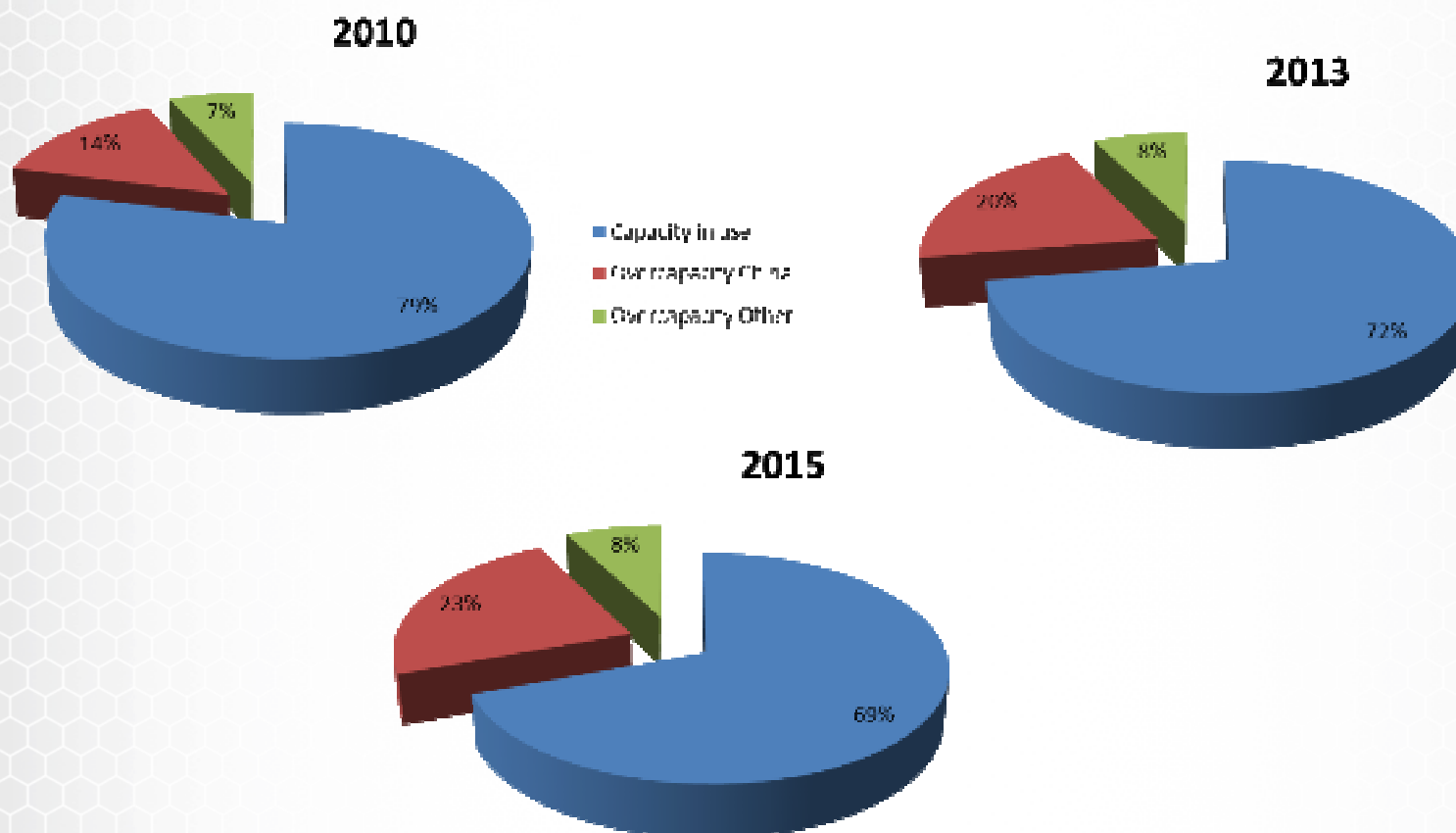


Global MMF Overcapacities

- Despite repeated warnings, overcapacities in MMF are further growing - particularly in China
- Many new projects (e.g. in Asia) are decided without sufficient market research
- Very often, access to finance is easy
- Investments and sometimes operating costs (energy, raw materials, labour...) continue to be subsidized
- In certain areas of the world state intervention is widespread
- The cost of closure often makes industry restructuring and modernization more difficult
- Overcapacities lead to low prices and reduced profitability

Global Overcapacity in Polyester

World polyester fibre capacity 2013: 64 million tonnes



Trade Distortions

- MMF are facing subsidized competition from other fibres (cotton, with 8-10 billion subsidies a year...)
- Exchange rates are very volatile and several currencies are misaligned and even manipulated
- Rising overcapacities encourage dumping, distorting the market even more
- The number of protectionist tariff barriers is increasing
- Non-tariff barriers such as taxes, standards and other requirements are widespread and growing as well
- EU FTAs are political, often unbalanced and not sufficiently reciprocal

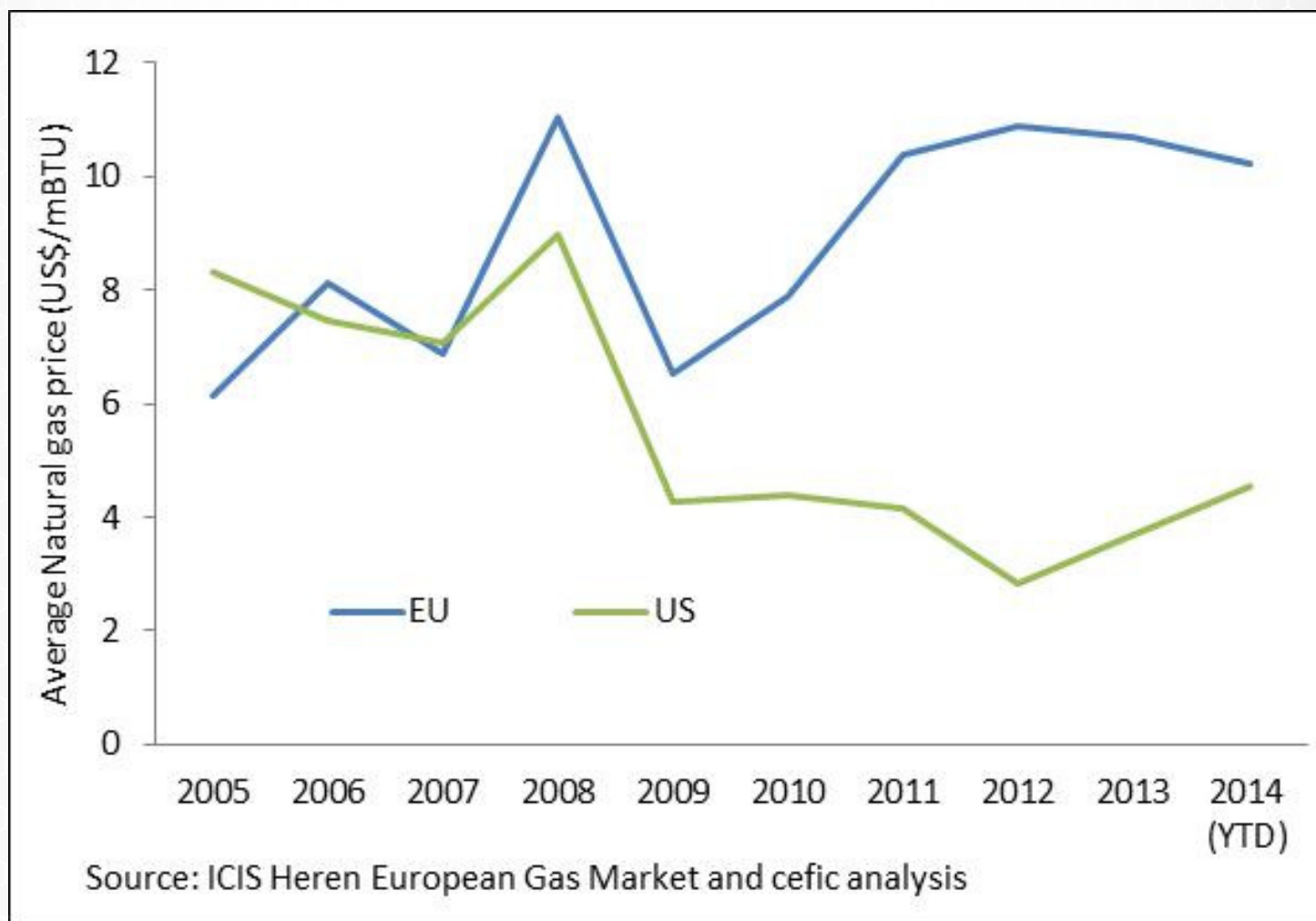
Raw Materials

- Oil and gas prices are volatile – politics play a growing role
- Intermediate prices depend on refinery mechanisms, supply/demand and are also influenced by technical incidents
- The European man-made fibre industry is also competing for raw materials with other industries : plastics, paper...
- Other parts of the world have huge demand for raw materials and secondary raw materials (e.g. recycled bottles in China)
- Whereas the « circular economy » is being encouraged in the EU and collection schemes in Europe are subsidized by the taxpayer...
- And there are political decisions and bureaucratic inefficiencies
- Short supply and unstable prices are the consequence of this demand for raw materials

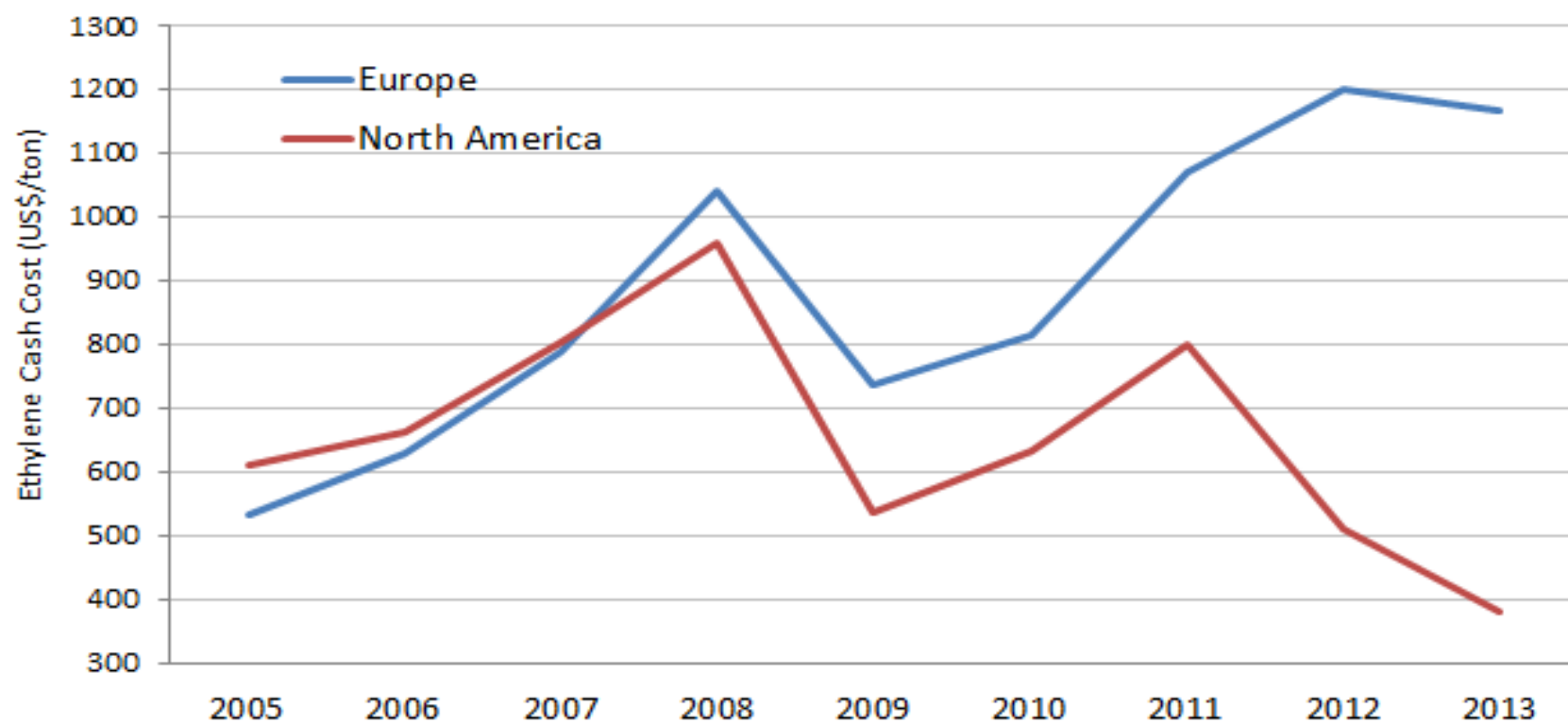
Labour, Energy and Other Costs

- Energy costs are higher than in any part of the world and have risen considerably
- Taxation, lack of liberalization, European legislation (climate change, environment, energy...) and political choices are among the factors
- The shale gas revolution in other parts of the world is having a major impact and Europe does not have a clear energy policy
- European labour costs are the highest in the world too
- Due mainly to high taxes, high social charges and unflexible labour laws at national level

Energy: Average Natural Gas Prices in the EU vs. the US (US\$/mBTU)



Average Ethylene Costs in the EU versus US (US\$/ton)



Source: ICIS

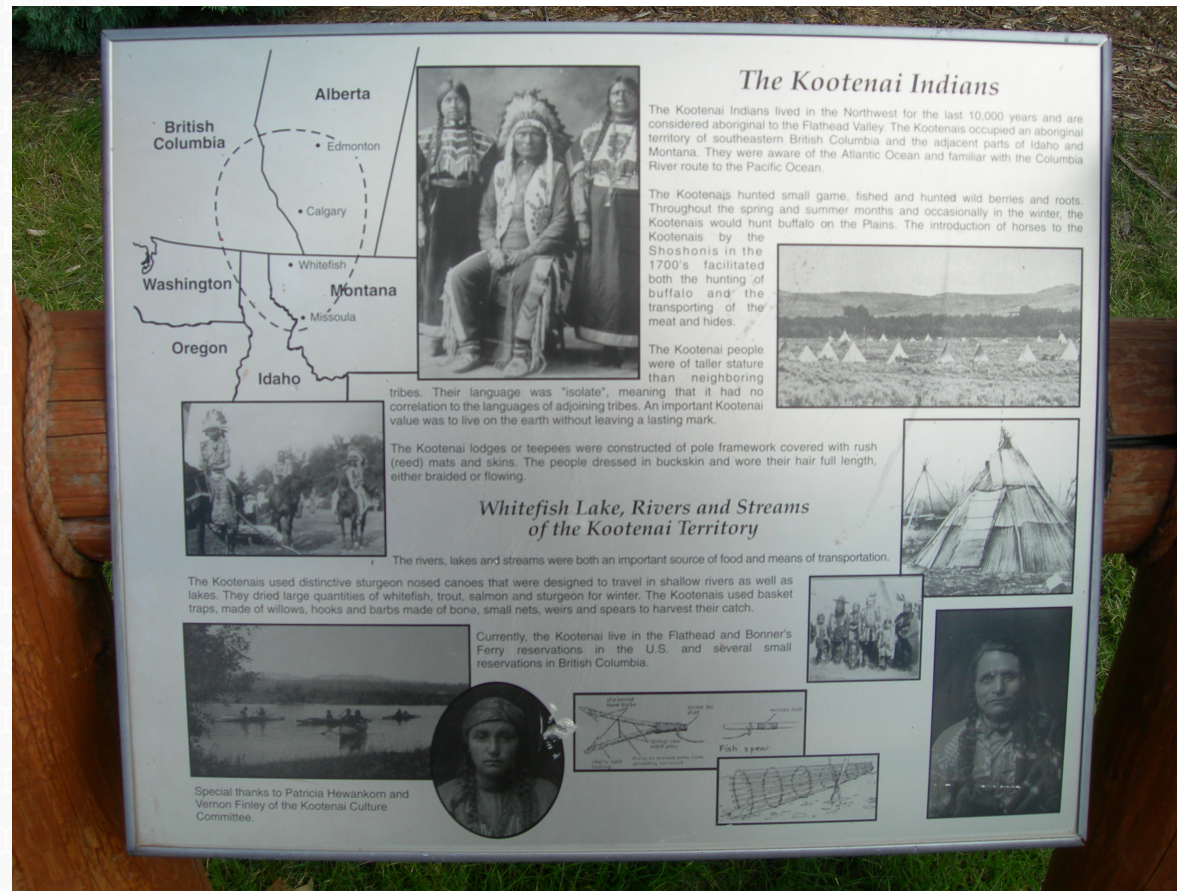
Environment and Legislation

- European legislation is increasing in all areas and mainly in terms of the environment (ETS-CO2, REACH, IED, SCP...) but also health and safety (occupational and consumer exposure) etc.
- An estimated 80% of national legislation in Europe originates from the EU – this share is rising
- Legislation is becoming stricter, more complex and increasingly political rather than purely science-based
- However costs linked to the legislation must remain economically viable...
- In a global economy where trading partners are not exposed to any such stringent environmental requirements
- And knowing that there is not much control of imported goods

Environment and Sustainability

- Environment and sustainability is an increasing public concern
- Natural fibres are not “best” for the environment” (e.g. use of water, pesticides, fertilizers in cotton)
- All fibres and the man-made fibres industry has to show that it is efficient or safe as to :
 - Land use,
 - Raw materials,
 - Energy,
 - Water use,
 - Emissions,
 - Waste,
 - Employee and consumer health etc.
- It is about the environmental footprint, about life cycle analysis (LCA)

People work on sustainability since centuries



"An important Kootenai value was to live on the earth without leaving a lasting mark"

From a new concern to a new environmental priority

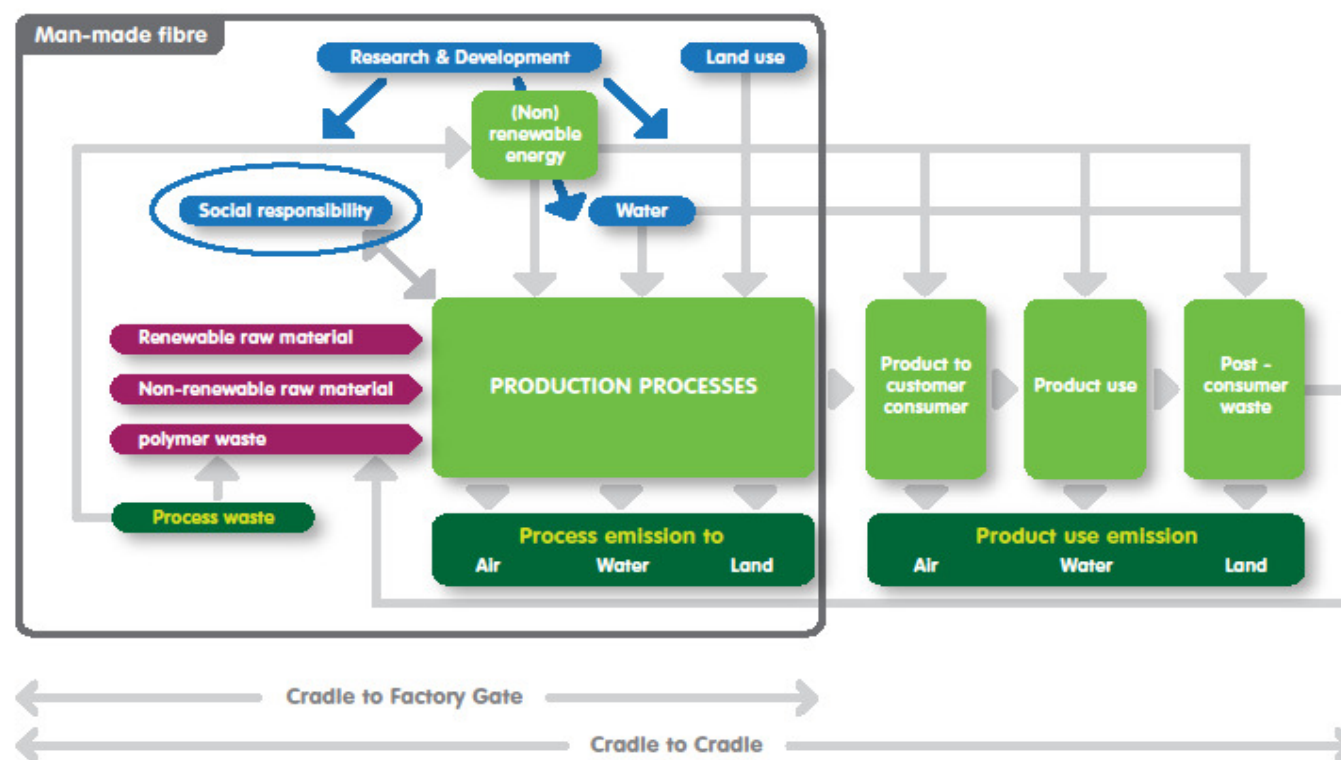
Historical overview

- Lack of resources Club of Rome (1972)
- Acidification, acid rain, concern of German forests
- Depletion of ozone layer
- ...
- In the 1980-ties introduction of the term sustainability
to meet the needs of the present without compromising the ability of future generations to meet their own needs
- ...
- Green house gas emission ... energy saving
- ...
- Revival of lack of resources via the circular economy
- ...?

The actual situation; what are we already doing

Sustainability Issues

Man-made Fibre producers are active on all aspects of sustainability

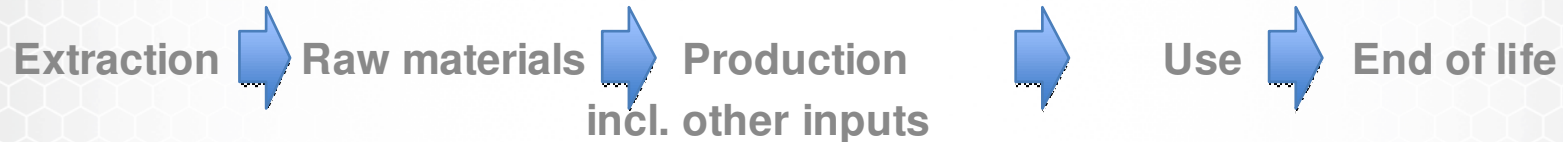


The need to measure; LCA

- Life Cycle Analysis (LCA)

LCA; some call it ... bookkeeping of the use of the global inventory and its impacts

From cradle to grave



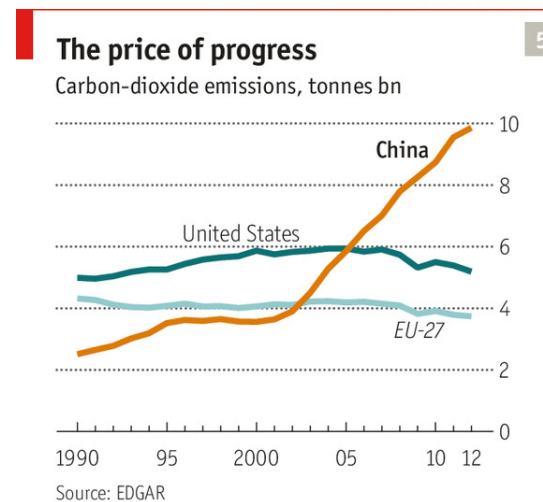
- We can measure; CO2 emission, water use,
- What is the impact; climate change, acidification,
- LCA is sum of all known and considered impacts
- The need to weigh these impacts ... but how to weigh the impacts? Are there objective criteria? How to make “the value of environmental footprints” scientifically sound???

The need to measure; the footprints

- To fix the status, to quantify the result of actions, you need to measure

Example;

Carbon footprint ... total of all GHG emissions expressed as CO2 equivalents



Over time new GHG are and will be discovered ...
But is only part of an overall ecological footprint

The need to measure; moving impacts

- Moving priorities and changing value of single impacts

As an example; Nogepe weighting results

(Nogepe; Nederlandse Olie en Gas Exploratie en Productie Associatie)

Environmental impact	1996	2002
Climate change	32	40
Ozone layer depletion	12	6
Photochemical oxidation	11	10
Acidification	17	8
Eutrophication	13	16
Human toxicity	15	20
Total	100	100

The need to measure; standardization and ISO

- According to what rules and criteria? ISO at global level, very well established and recognized
- Overview of ISO standards and sustainability

In numerical order ...

ISO 14020 Environmental labels and declarations – General principles

ISO 14021 Environmental levels and declarations – self declared environmental claims (Type II) Environmental and labelling

ISO 14024 Environmental claims and declarations (Type I) Environmental labelling – principles and procedures

ISO 14025 Environmental claims and declarations (Type III) Environmental declarations – principles and procedures

ISO 14040 Environmental management – Life cycle assessment – Principles and framework

ISO 14044 Environmental management – Life cycle assessment – Requirements and guidelines

ISO 14067 Green House Gases – Carbon footprint of products – Requirements and guidelines for quantification and communication

ISO 14072 Environmental management – Life cycle assessment – Requirements and guidelines for organizational life cycle assessment

The need to measure; ISO, but still too much freedom

- **Many impacts and several methodologies to calculate the impact**
Global warming, Resource depletion, Deforestation, Impact of water use, Recycling allocation, Acidification, Eutrophication, Loss biodiversity, Toxicity
- **Which study to use; extensively tested, vs. new, unused, unproven, etc.**
- **Where can I find the data? Plenty of data sources available**
- **But what about reliability of data? (Un)certainty of the result?**
- **Help!** It is becoming very comprehensive, complex, time-consuming, need some help, expensive

The need to measure; harmonized EU PEF

- Harmonization of existing LCA based methods, resulting in EU PEF and EU OEF

Aim;

- Dramatic reduction of (commercial) labels
- Increasing comparability between products, ... by predefining requirements of methodological aspects of ISO 14044 → comparability over flexibility
- Should include credible communication to consumer,
- Followed by policy implementation of PEF ...

Yes, it is also about communication

Communicate to whom?

- Business to business communication,
- Business to political institutions
- Business to consumer communication.

Critics to communication

- In many cases only one, or only a few, aspects of the ecological footprint is highlighted
- Depending on label type specific assessment methodology (e.g. self declaration)
- This can be misleading
- Meaning and relevance remains difficult to understand for non-experts, the consumer

Communication; Action and Reaction

An example; single-use versus reusable diapers

- 1990 P&G claims significant advantages for disposables (energy, water use, ...)
- 1991 NADS (National Association of Diaper Services) reusable diapers superior from an environmental perspective (less raw materials, lower volumes of solid waste)
- 2005 DEFRA (UK) no significant difference between any of the environmental impacts...
- 2008 DEFRA (UK) update came to the same conclusion but result for reusable diapers strongly depends on assumptions about washing and drying
- But not to the satisfaction of RDA (US Real Diaper association) ... “When LCA is used for comparison, there are too many variables to result in an accurate comparison”. “The UK studies tried to control for these variables, but those controls don’t resolve the issues of what impacts count. These are the foundational assumptions inevitable in any study. Compare two such different group of products and the assumptions determine outcomes”.

(Adapted from presentation by Calvin Woodings at INDAs Vision Conf Dallas Texas Jan 2014)

The actual situation; many drivers for action

- Retailers, big brands who have set publicly ambitious goals, and where their supply chain has to be involved
- Pressure and requests from customers
- NGO and public opinion
- Governments having implemented carbon reduction programs and legislation (e.g. emissions trading schemes, energy efficiency targets etc.)
- ...
- We almost always forget saying we want it for ourselves, for improving our business and the environment, or?

Role of CIRFS

- CIRFS represents the industry at European level with EU institutions and other bodies
- In a more challenging context, it will strive to further raise the profile of the industry with the Commission and the Parliament
- And advocate for the interests of MMF to be taken into account in all relevant regulations
- Trying to avert legislation damaging the industry's competitiveness
- Working towards a true level playing field inside and outside Europe
- Demonstrating and underlining the sustainability of MMF in all aspects of life
- And their positive contribution to EU's 'industrial renaissance'

Conclusions

- Europe remains a strong man-made fibre producing region
- With opportunities for European producers
- But facing many internal and external challenges
- 2014 is a year of political changes and industry has many requests to the new Commissioners and MEPs
- For MMF these are indeed numerous but in trade, environment, energy and R&D in particular
- More than ever CIRFS wishes to further raise the profile of the industry
- And to convey these concerns and request to the highest level within the European institutions
- In order to ensure the future of the industry ... and the EU economy

THANK YOU!

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