

THE WOOD INDUSTRY, A GREAT ACTOR OF THE GREEN ECONOMY ?

Current statements and factors of competitiveness

WOOD2GOOD

The restructuring of the wood sector in Europe

Towards a Green Economy

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WHO IS EOS ?

The European Organization of the Sawmill Industry (EOS) is a Brussels-based non-profit association representing the interests of the European sawmilling sector and the benefits of its products. The collective expertise of EOS's members provides a unique source of information both for and on the industry; coordinating essential exchanges of experience and knowledge among its members, the ability to provide technical assistance to legislators and to identify independent experts on specific issues.

Through its member countries EOS represents some 35 000 companies across Europe. Together they represent 75 % of the total European sawn wood output and a turnover of almost 37 billion EUR, and 15% of the overall woodworking and furniture industry in EU.



WHO IS EOS ?

EOS Member countries (2014)



- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Italy
- Latvia
- Norway
- Romania
- Sweden
- Switzerland
- United Kingdom



EOS key messages

- + Annual increment in European forests is bigger than the harvesting
- + Wood based products are the only renewable and sustainable products for multitude of usages, and their demand is increasing
- + European forest industry is a fully integrated business ecosystem to produce wide range of sustainable industrial commodities, consumer products and energy
- + Strong research in use of wood in construction and opening up of regulations
- Increasing competition for woody raw material combined with rapid escalation of log exports to outside EU
- Barriers for the use of wood in high-rise and commercial buildings
- Multiple and non-compatible certification systems (FSC vs. PEFC vs. EUTR)

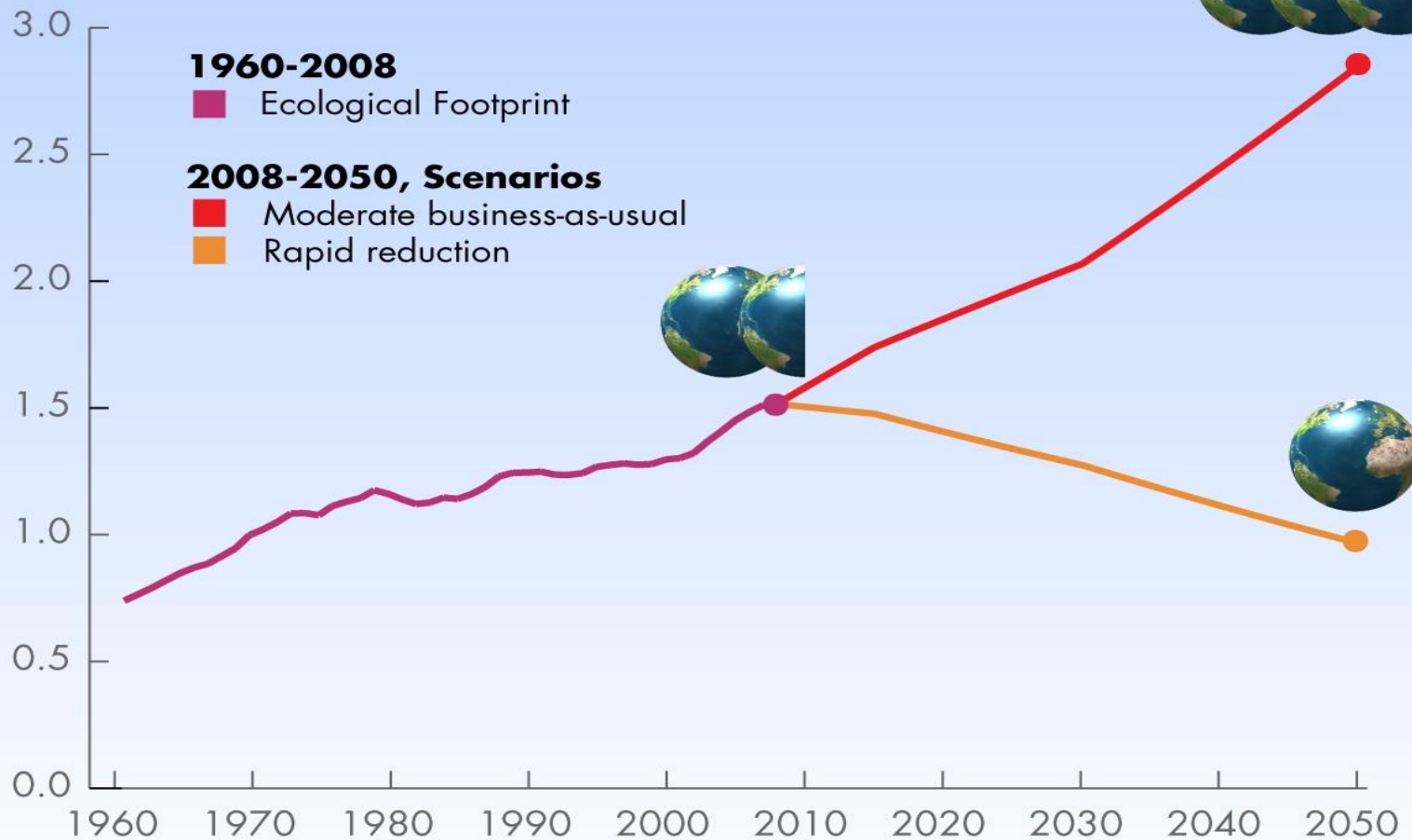


Forest



Wood processing value chain

Can we afford to carry on like this ?



y-axis: number of planet earths, x-axis: years

The ecological footprint of the construction sector is huge and will increase in future

- The construction sector consumes half of the raw materials and produces 40 % of waste (EU R&D project RELIEF 2003).
- Most of the raw materials are not renewable
- The construction sector will further increase worldwide:
 - Increase of population
 - People move into towns
 - Increase of social life
- Non renewable resources will decrease



Position on EU policies

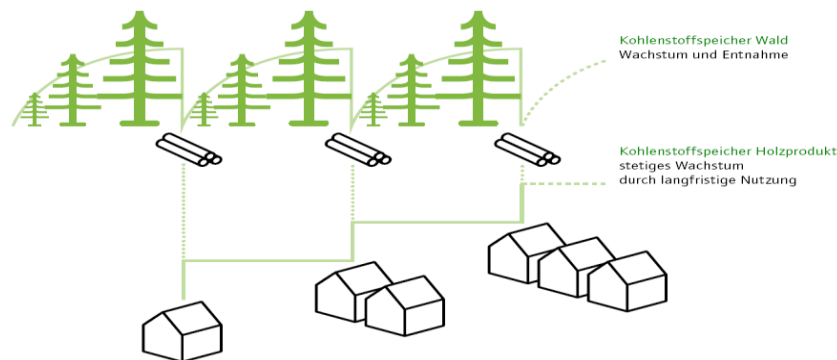
Wood and construction

The European Commission has developed the concept of 'lead markets' as a tool to promote favorable market conditions for new innovative products, services and technologies in the EU market. Lead markets should provide solutions to economic and societal challenges such as health, energy, environment and transport. Sustainable construction is one of the six markets in the Lead Market Initiative.

Construction of buildings represents 10% of the global economic activity, consumes 40% of the world's materials and energy production, accounts for 17% of global fresh water consumption, and utilizes 25% of the annual global wood harvest. An important message is that in comparing the environmental profile of the three main construction materials, wood systems outperform steel and concrete.

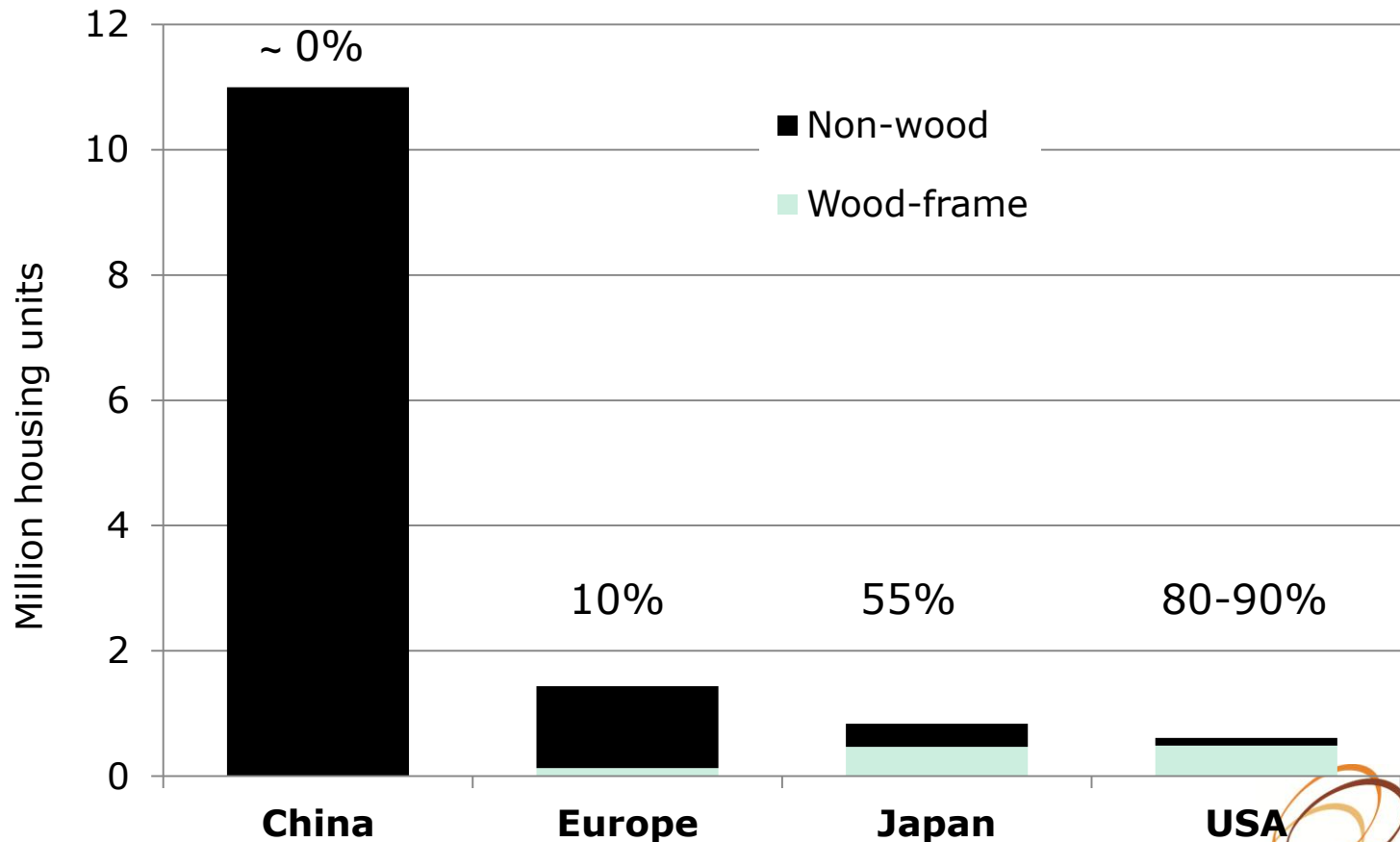
The Commission's "Roadmap to a Resource-Efficient Europe" states that existing policies for promoting energy efficiency and renewable energy use in buildings need to be complemented with policies for resource efficiency, which look at a wider range of environmental impacts across the life-cycle of buildings and infrastructure. The European Commission has opened a stakeholder consultation that will contribute to a Communication on Sustainable Buildings in 2013 (closing date October 1, 2013).

CO₂-Speicherung durch Holzbau



European market provides a huge potential for wood based construction

Housing starts (2011)



Sources: Euroconstruct, Consensus Forecasts, NAHB, Wood Markets International, Stora Enso



European initiatives related to carbon efficient construction

- Roadmap to a resource efficient Europe
- Roadmap for moving to a competitive low carbon economy
- Energy performance of buildings directive
- Ecodesign directive

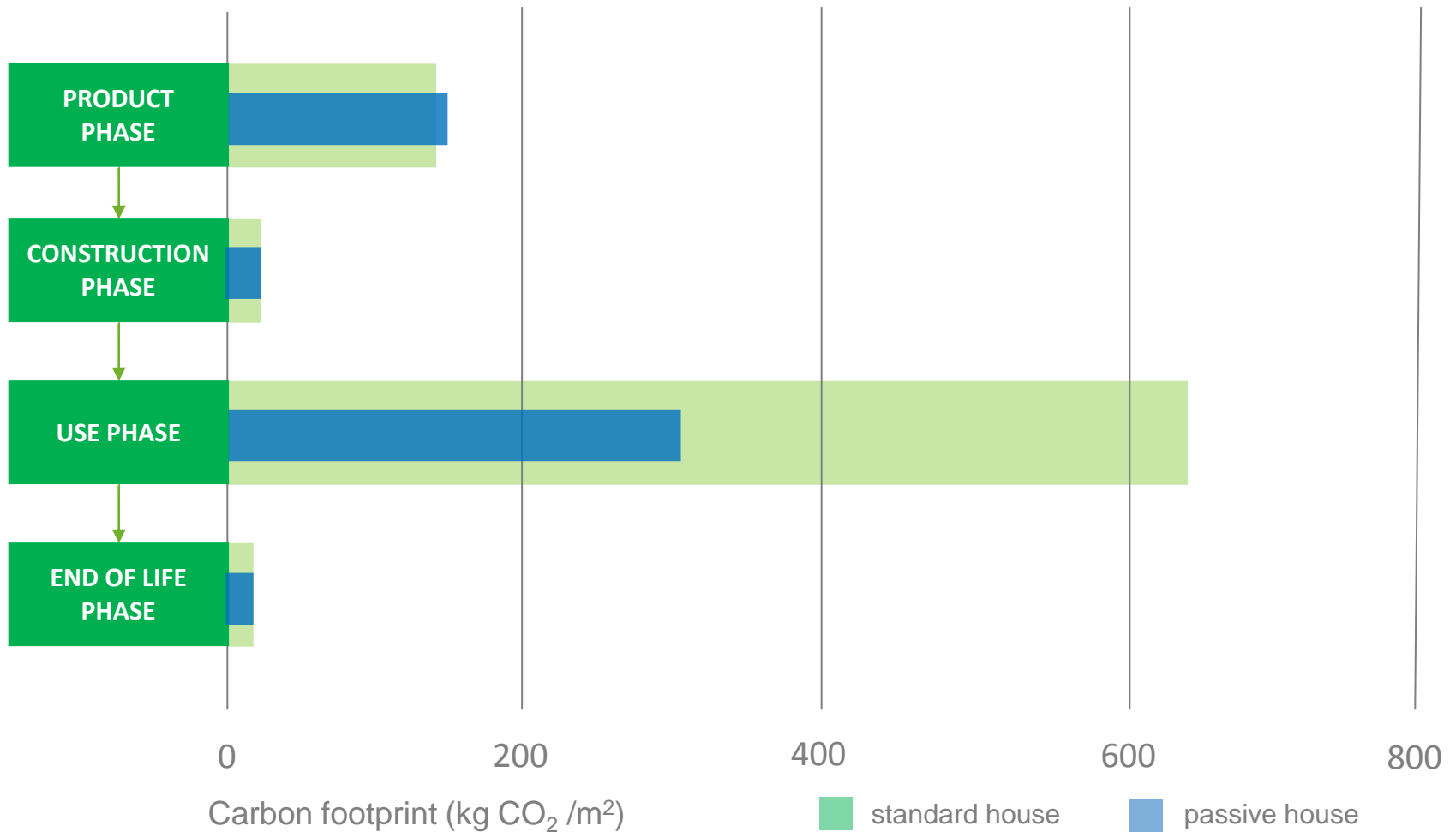
1. Ambitious greenhouse gas reduction goals

2. Increased use of domestic biomass for energy

3. Necessary to inform consumers about the environmental characteristics of energy-related products

Carbon footprint of the Wälludden building

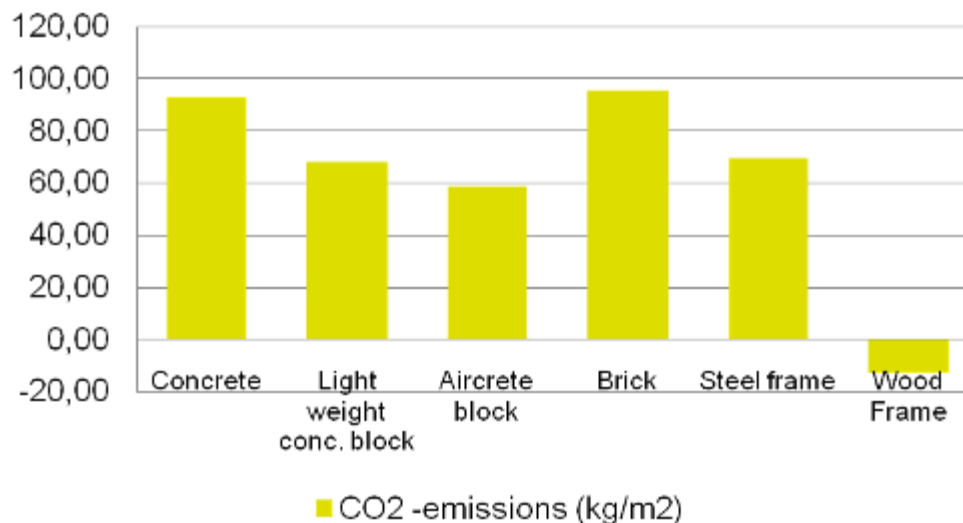
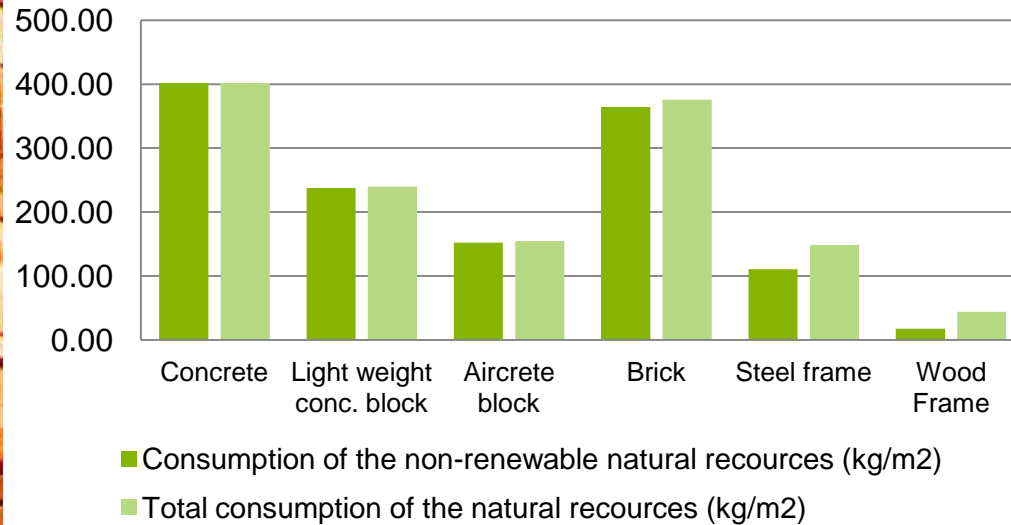
Source: Linnaeus University and SP Trätekt



It is not sufficient to focus on constructing zero energy buildings. The carbon footprint of construction materials should be taken into account.



The environmental impact of timber structures



- Timber structures can be built by using less natural resources than other structures.
- Timber houses/construction store CO₂.
- Timber has low embodied energy.

One passive house – two frame options

Source: Aalto University

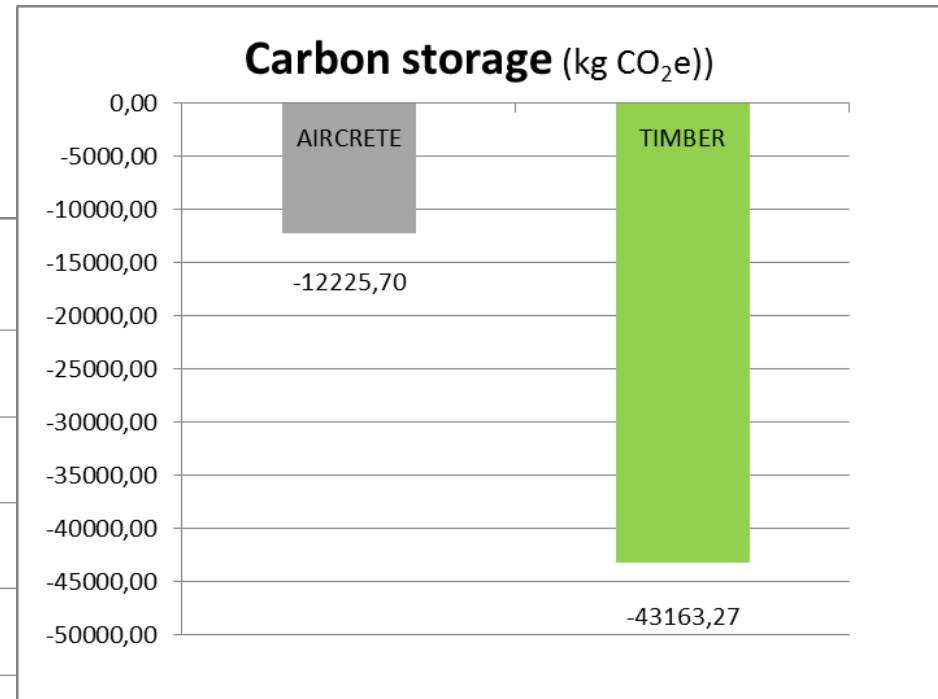
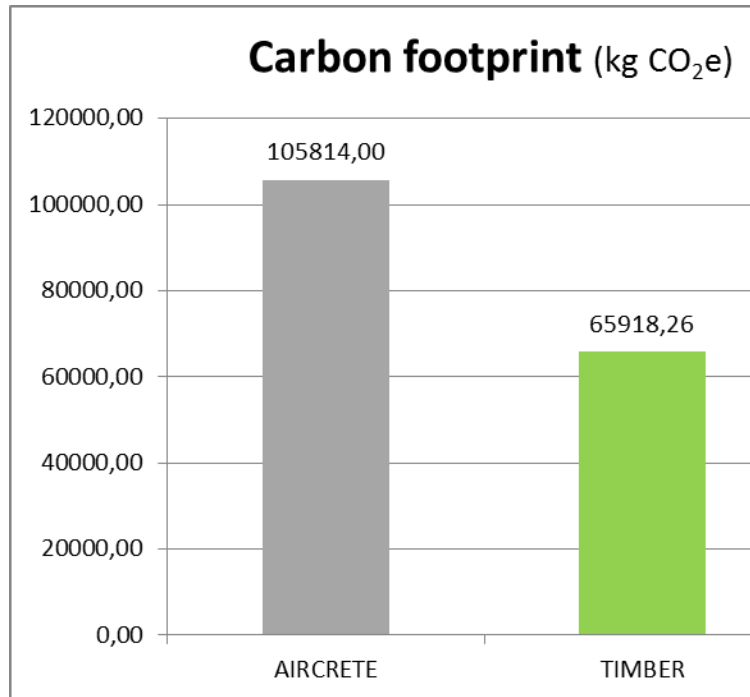
**Wooden frame
+
wood fibre insulation**



**Concrete frame
+
EPS insulation**



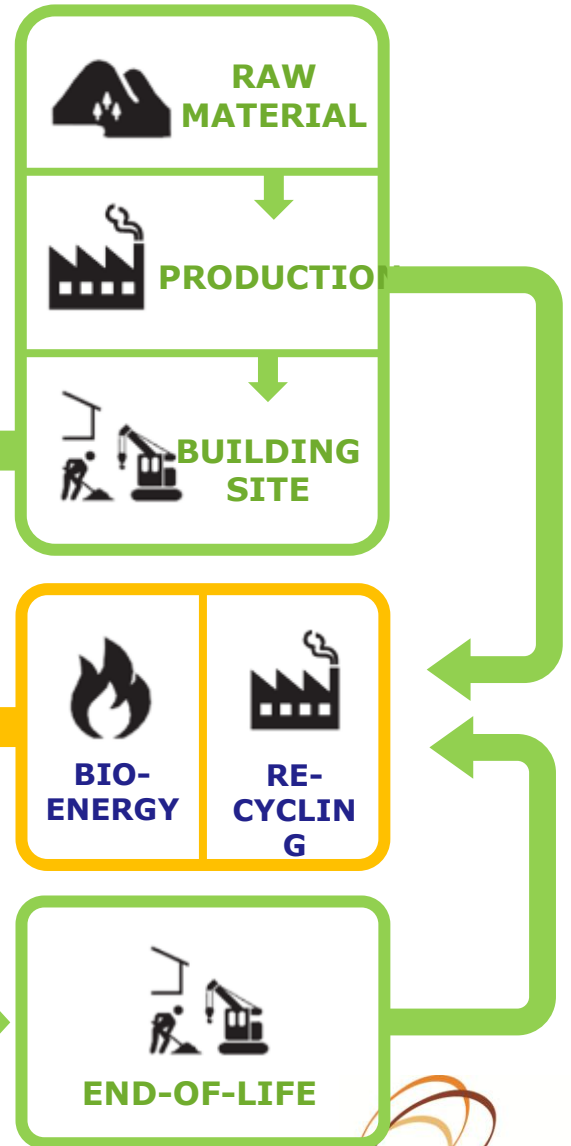
Carbon footprint and storage (production phase)



**Because of their long service life,
buildings are the most suitable sector
for storing carbon.**



Full spectrum of the environmental benefits of wood construction should be utilised.



E3, Berlin - Architect: Kaden Klingbeil

Wood-based construction materials may help to achieve several goals of resource efficiency, green economy and create more jobs



Consider the reduction potential in the agricultural and forestry sectors that takes into account the following requirements:

The need to ensure food security to feed the global population

The EU stated objective of reducing agricultural emissions, in particular within developed countries

Efforts to reduce agricultural emissions

Increased biomass use for energy

Dietary habits remain the same as in 2005, with intensive food linked to welfare in developed countries



In 2050, the EU's total primary energy consumption could be about 30% below 2005 levels. More domestic energy resources would be used, in particular renewables. Imports of oil and gas would decline by half compared to today, reducing the negative impacts of potential oil and gas price shocks significantly. Without action the oil and gas import bill could instead double compared to today, a difference of € 400 billion or more per annum by 2050, the equivalent of 3% of today's GDP¹⁶.

6. CONCLUSIONS

The Commission's detailed analysis of cost-effective ways of reducing greenhouse gas emissions by 2050 has produced a number of important findings.

In order to be in line with the 80 to 95% overall GHG reduction objective by 2050, the Roadmap indicates that a cost effective and gradual transition would require a 40% domestic reduction of greenhouse gas emissions compared to 1990 as a milestone for 2030, and 80%

if achieved, the EU needs to start working now on energy efficiency, and all Member States should soon develop policies already done. The Commission is prepared to provide

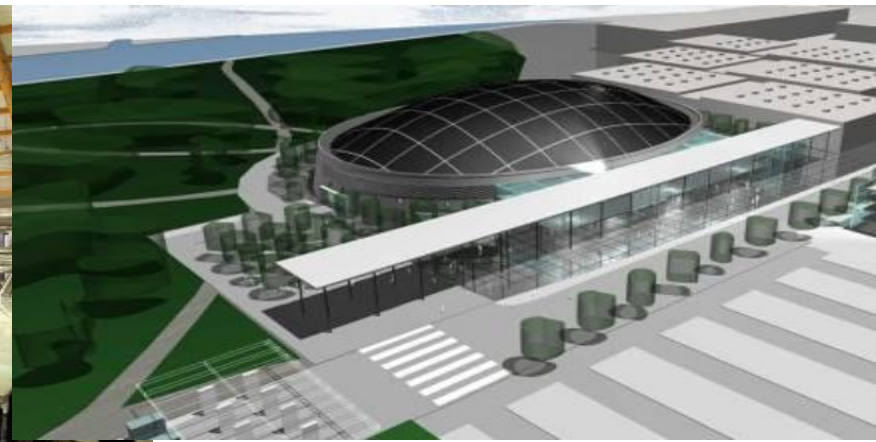
(3) Energy-related products account for a large proportion of the consumption of natural resources and energy in the Community. They also have a number of other important environmental impacts. For the vast majority of product categories available on the Community market, very different degrees of environmental impact can be noted though they provide similar functional performances. In the interest of sustainable development, continuous improvement in the overall environmental impact of those products should be encouraged, notably by identifying the major sources of negative environmental impacts and avoiding transfer of pollution, when this improvement does not entail excessive costs.

Available knowledge of full life-cycle impacts can come from creating methodologies for life-cycle impacts (or environmental footprint) and research. This can be used for consumer information, supply chain and policy.

Products or services with lower life-cycle impacts can be increased through labelling and marketing that, in practice, help consumers choose products that issues of trust and image are often more influential than price. Greater diffusion of scientific research into drivers of consumer choice is needed. Other options to increase market rewards for these products are to be explored.

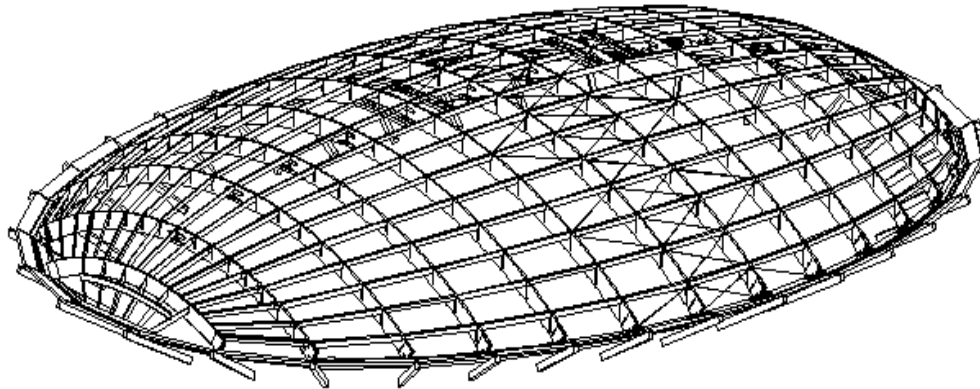
Incorporating life-cycle considerations into public procurement can increase market demand for innovation. Joint public and private procurement can be used to effectively buy innovations that would not otherwise be able to break quickly in commercial markets.

Setting minimum environmental performance standards for products as part of an integrated policy – under the Eco-Design Directive – can boost diffusion and market for more resource efficient products, by removing the least resource efficient



Salzburg Arena

- 81 m free span
- length 107 m
- height 26 m
- 7.500 kg max. load
- Area 11.000 m²



Comment:

This hall for events is very special with regard to its universal possibilities. With about 6.800 seats it offers a suitable location for sporting events and concerts with pretentious needs particular about acoustics. Given the engineering concept it is allowed to fix a stagecraft up to 205 t (=2050kN) on the load bearing structure additional to an already increased snowload

Design/engineering

KSP Engel & Zimmermann



Passive House „Kammelmweg“ Multistorey residential building

Address

Kammelmweg
1210 Wien

Design

Prof. H. Kaufmann & Johannes
Kaufmann

Building owner

Arge Schertler/Mischek



Structure: reinforced concrete
Exterior walls: prefabricated
timber elements integrated into
the building shell
Height: 7 floors



storaenso

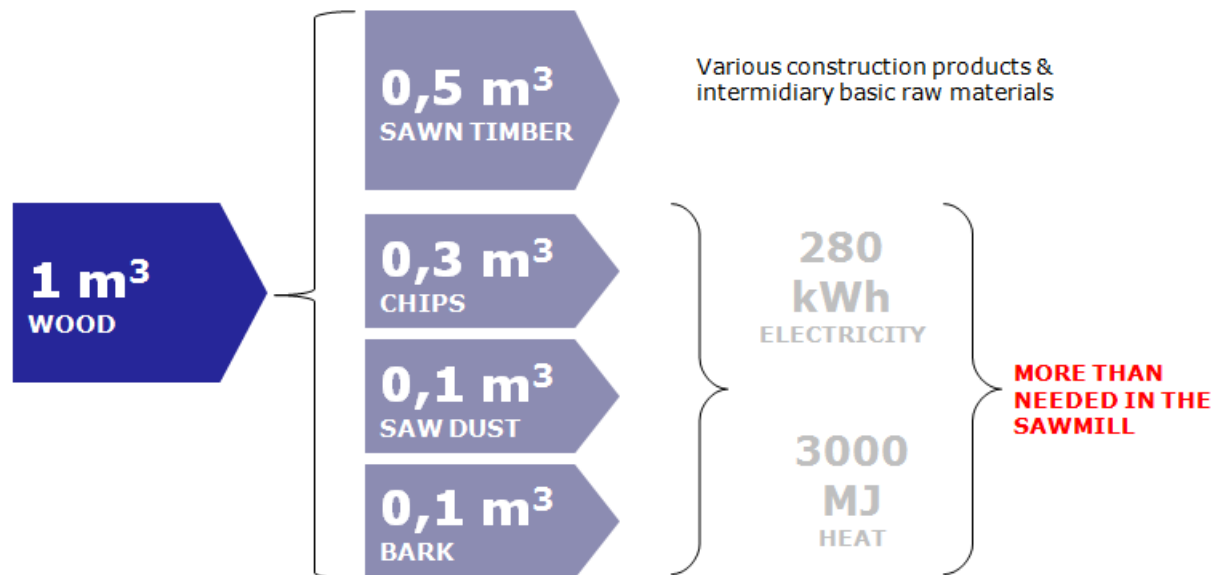
Via Cenni, Residential apartments, Milan Italy

Position on EU policies

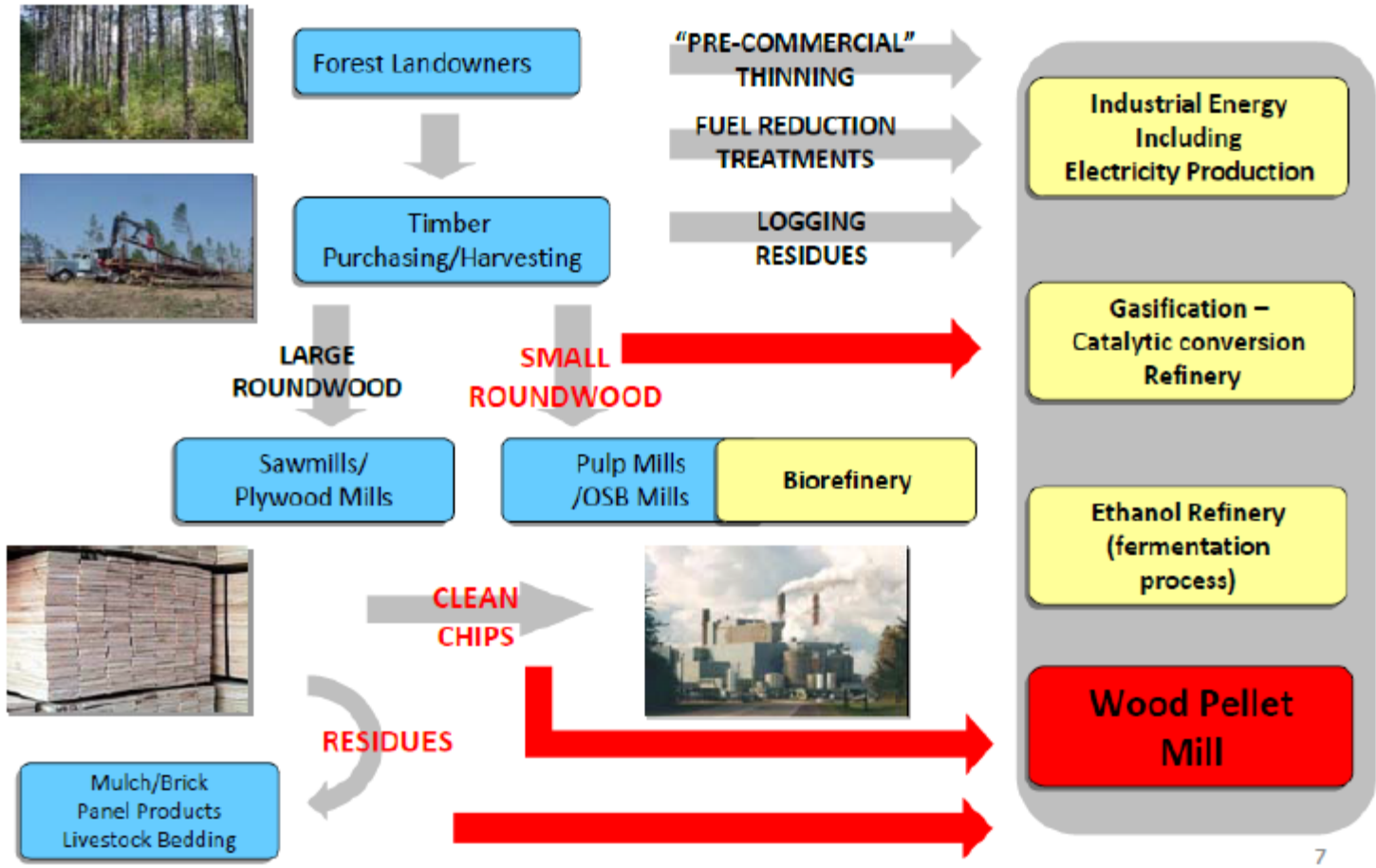
Wood and Energy

EU governments and non-governmental organizations are encouraging the development of renewable energy to combat climate change mitigation and increase energy security. Wood is currently the largest source of renewable energy, although other renewables, such as wind and solar, are rapidly gaining momentum. Nevertheless, it is estimated that a significant increase in the supply of wood will be necessary to reach the 20% target set for renewable energy by 2020.

The EU wood working industries are playing an important role as providers of heat and electricity and as producers of wood-based bio-fuels, by becoming "bio-refineries", thus contributing to more efficient use of wood both for energy and forest products. Indeed, sawmills and wood panels producers are largely self-sufficient already through energy recovery from waste.



Supply chain sources of forest biomass feedstock



The future demand for domestic pellets in Europe (a survey of national wood pellet associations)

Country	source	2011 (t)	2015 (t)	2020 (t)
Austria	(Propellets Austria)	710 000	1 490 000	3 500 000
Belgium	(Ekman)	100 000	150 000	200 000
Denmark	(Ekman)	700 000	1 000 000	1 250 000
France	(ProPellets France)	560 000	1 400 000	2 500 000
Finland	(FPEA)	70 000	150 000	450 000
Germany	(DEPV)	1 400 000	1 900 000	3 500 000
Ireland	(irbea)	40 000	60 000	70 000
Italy	(AIEL)	1 900 000	3 100 000	4 250 000
Spain	(Avebiom)	150 000	450 000	1 150 000
Sweden	(PIR)	1 000 000	1 200 000	1 400 000
Switzerland	(Propellets CH)	160 000	250 000	400 000
UK	(UKPC)	50 000	500 000	1 250 000
Other countries	(Ekman)	1 100 000	1 600 000	2 200 000
		7 990 000	13 370 000	22 370 000

Improved wood mobilization

Sustainable forest biomass production



Future incentives



Today's incentives



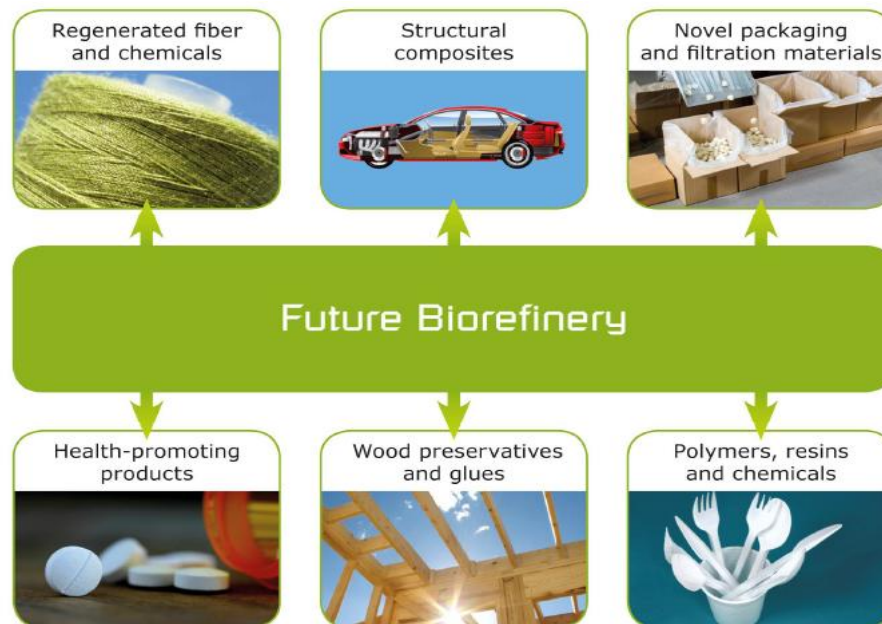
Technology development to produce competitive solutions

Position on EU policies

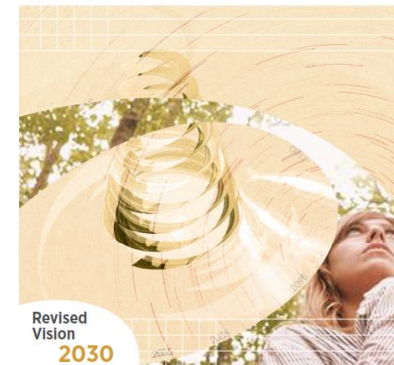
Wood and RTD

The European Commission, under its flagship initiative "Horizon 2020", recently introduced five Public-Private Partnerships, called 'Joint Technology Initiatives' (JTIs). The Bio-Based Industries JTI aims to promote a strong European bio-based industrial sector to reduce Europe's dependency on petroleum products, help the EU meet climate change targets, and lead to greener and more environmentally friendly growth.

The estimated budget for this new initiative is €3.8 billion. The EU will contribute €1 billion from the Horizon 2020 program budget whereas industrial partners will commit €2.8 billion. The industry is organized in a Bio-based Industries Consortium. The consortium brings together almost 50 European large and small companies, clusters and organizations across technology, industry, agriculture and forestry.



Horizons - Vision 2030
for the European Forest-based Sector



Revised
Vision
2030



UPM Biofore Concept Car on show in Geneva

FULL STORY



Wooden bridges



Wood based high value-added business concepts



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Modern and classic park and street furniture.

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International English

Country sites

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- Belgique
- Czech Republic
- Denmark
- Deutschland
- España
- Estonia
- France
- Greece
- Hungary
- Iceland
- Ireland
- Italia
- Japan
- Korea
- Latvia
- Lithuania
- Nederland
- Norge
- Poland
- Portugal
- Romania
- Russia
- Schweiz / Suisse
- Slovakia
- Slovenia
- Suomi
- Sverige
- UK
- United Arab Emirates
- Österreich

Remember my choice for next time

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EOS

Whatever can be made of oil can be made of wood



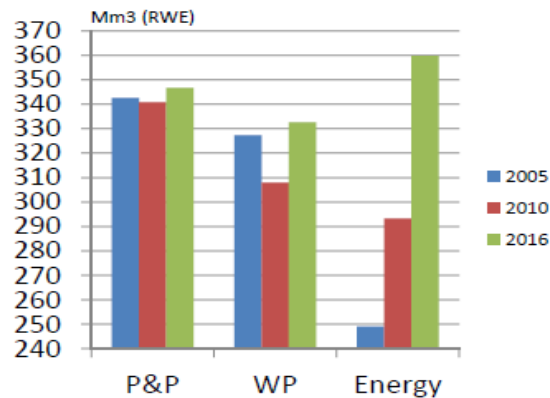
Domsjö Fiber 

 EOS

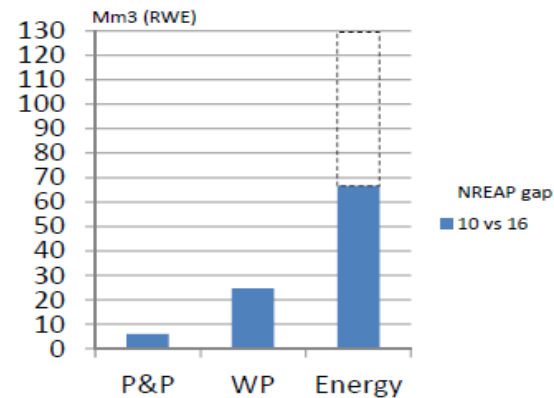
Hence, the demand for wood is growing..

Pulp and Paper and wood products to remain relatively unchanged whereas bioenergy to increase significantly. In addition, energy related raw material gap expected in 2016.

Total Raw Material Use in EU-27



Change in Raw Material Use in EU-27

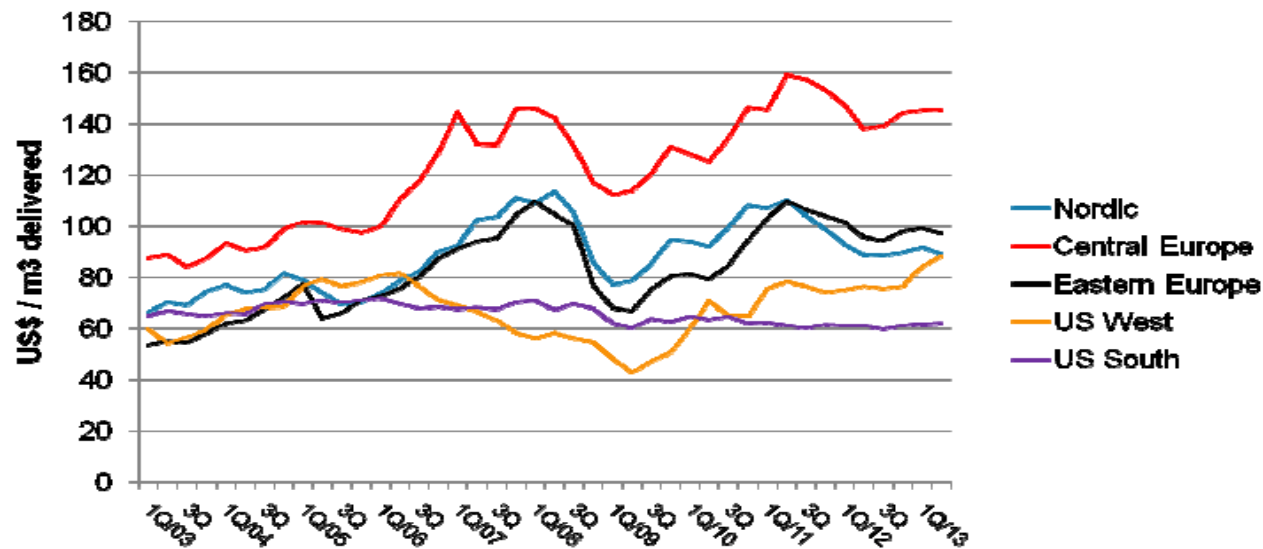


.. and the price is increasing

Inevitably, the strong Chinese demand leads in first instance to price increases in the order of 20% for oak of normal quality and 15% for beech.

The traders put their prices slightly above those of the European sawmillers, forcing the latter to increase their proposals and contributing to impacting the sales margins even further for a sector that has been obliged to invest continuously (environmental standards, health and safety standards regarding dust, noise, etc.)

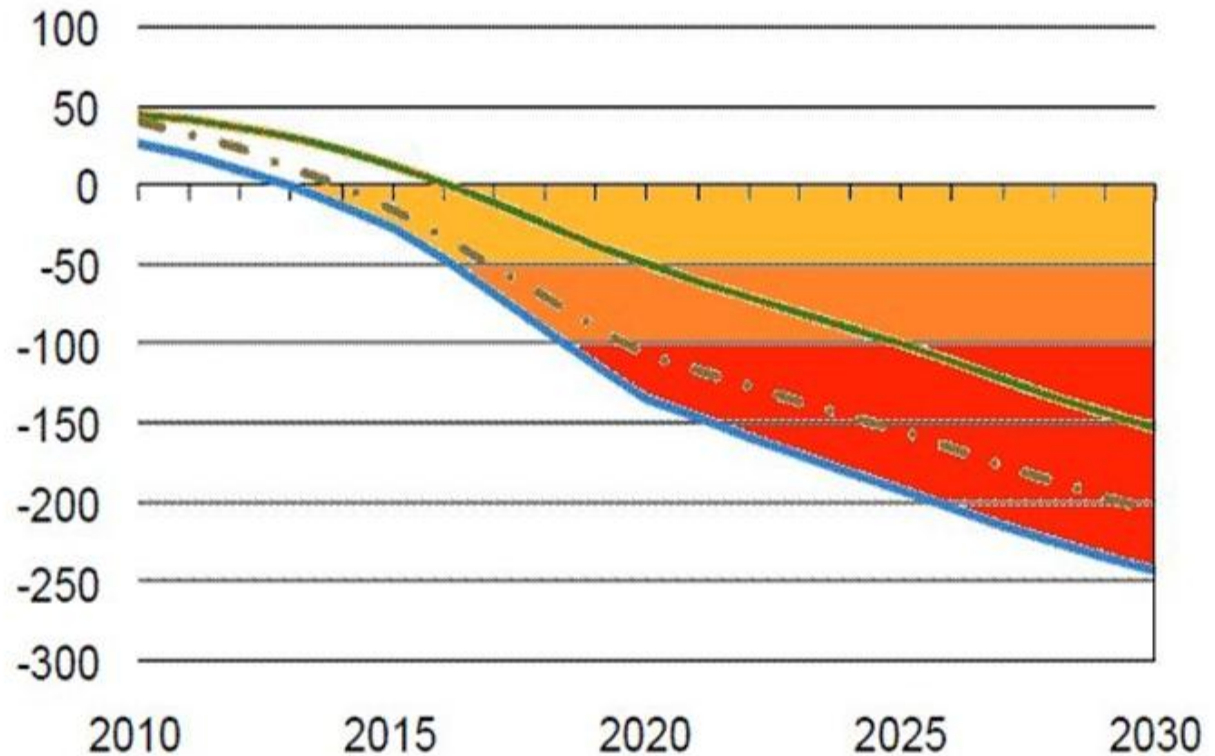
Sawlog price developments: Global, Nordic, Europe and United States



Source: Wood Resource Quarterly,
Wood Resources International, 2013

...and the wood deficit is growing

The future wood deficit in Mio. m³

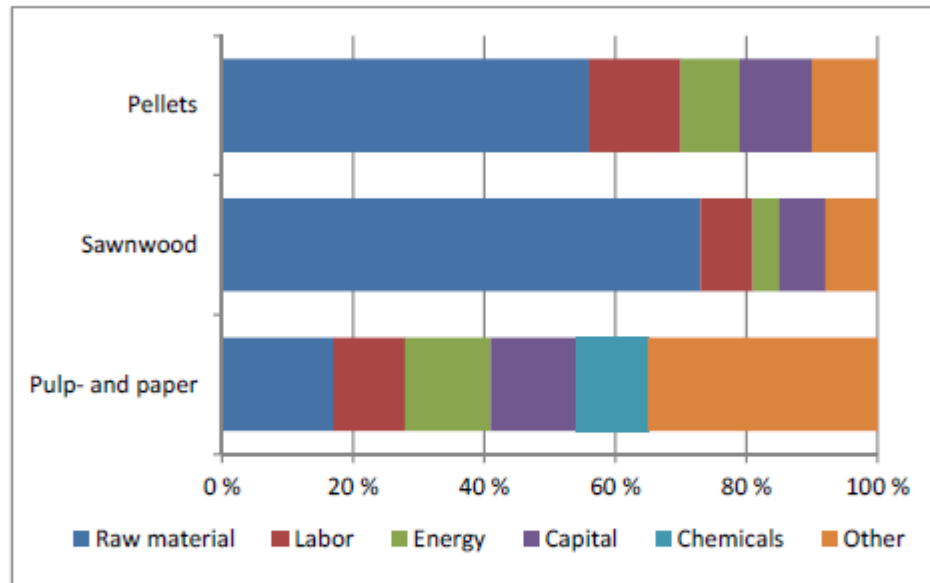


Source: Mantau, U. et al. 2010: EUwood - Real potential for changes in growth and use of EU forests. Final report. Hamburg/Germany, June 2010. 160 p.



In the wood-working industry, as well as in bioenergy, wood price is a key issue

Examples of Cost Structures in Different Forest Industry Sectors

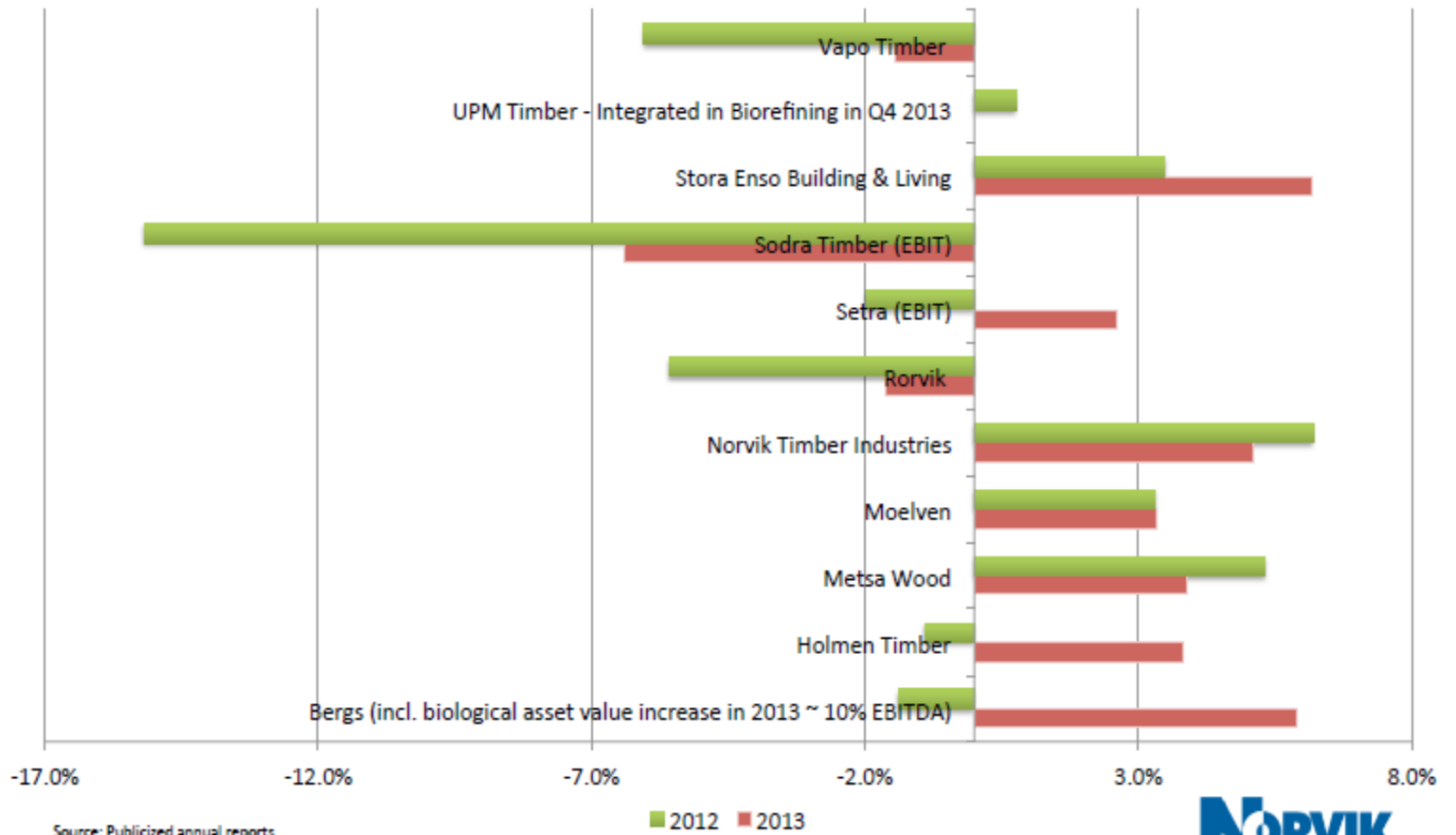


Note: Cost structure of the average European producer



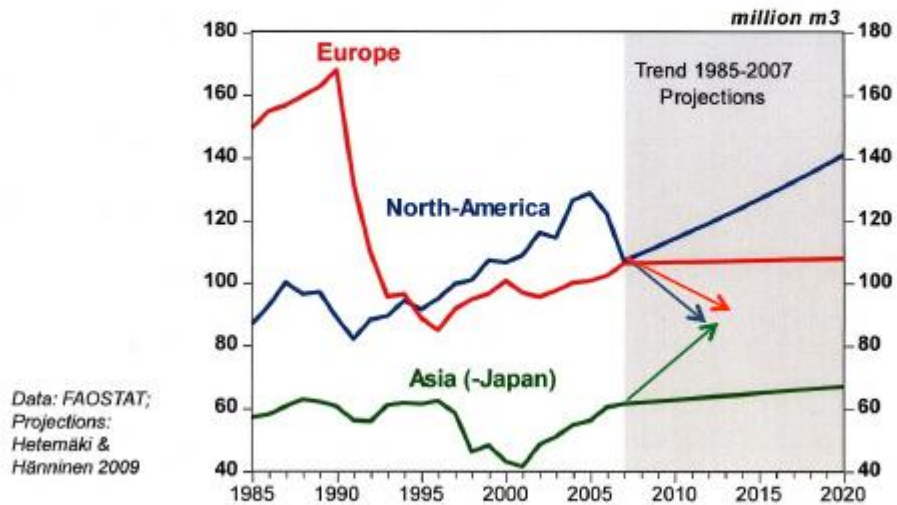
Financial health of industry

2012 & 2013 EBITDA Results for Selected European Sawmilling Companies





Conif. Sawnwood Consumption 1985-2006 and Projections to 2020



The per capita consumption levels and population growth are the determinants of the trends

Improved wood mobilization

Sustainable forest biomass production



Future incentives



Today's incentives



Technology development to produce competitive solutions

Conclusions

- Raw material availability and cost remains to be a bottleneck in most parts of Europe
- Demand for wooden product will remain strong in Asia and NA, Europe will remain stagnant
- Consolidation of the industry will continue
- Europe will see an influx of Asian players and investment, mainly into the forestry
- EU energy policies will continue to undermine the forest industry operating environment



"Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D.

It's not about money. It's about the people you have, how you're led, and how much you get it."

-- Fortune, Nov. 9, 1998

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