





3rd INTERNATIONAL
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Global Wood Availability Outlook – Who Has the Timber?

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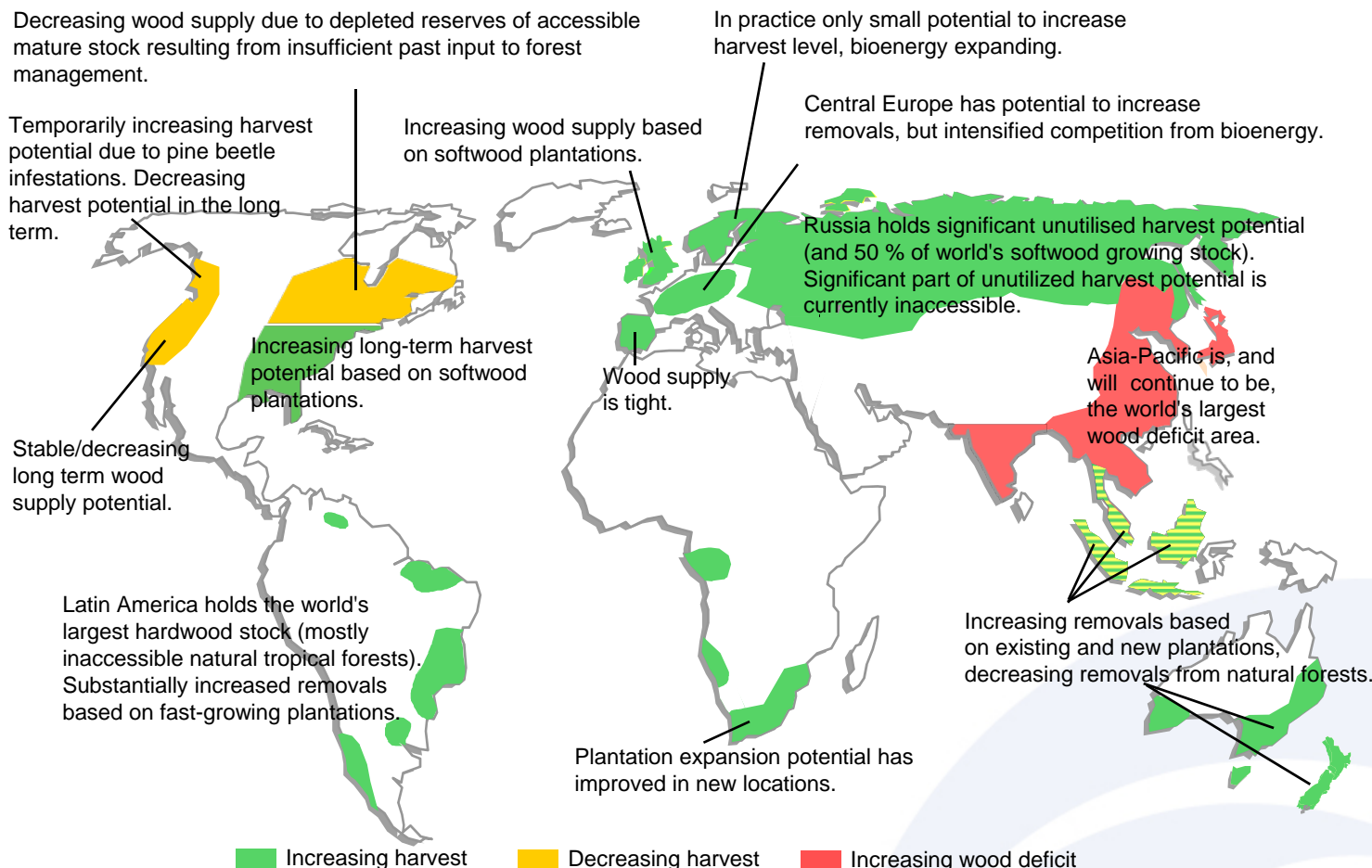
Contents

1	Global Forest Resource Base	4
2	Discontinuities in Wood Supply	9
3	Outlook –Challenges and Opportunities Ahead	14

1 Global Forest Resource Base

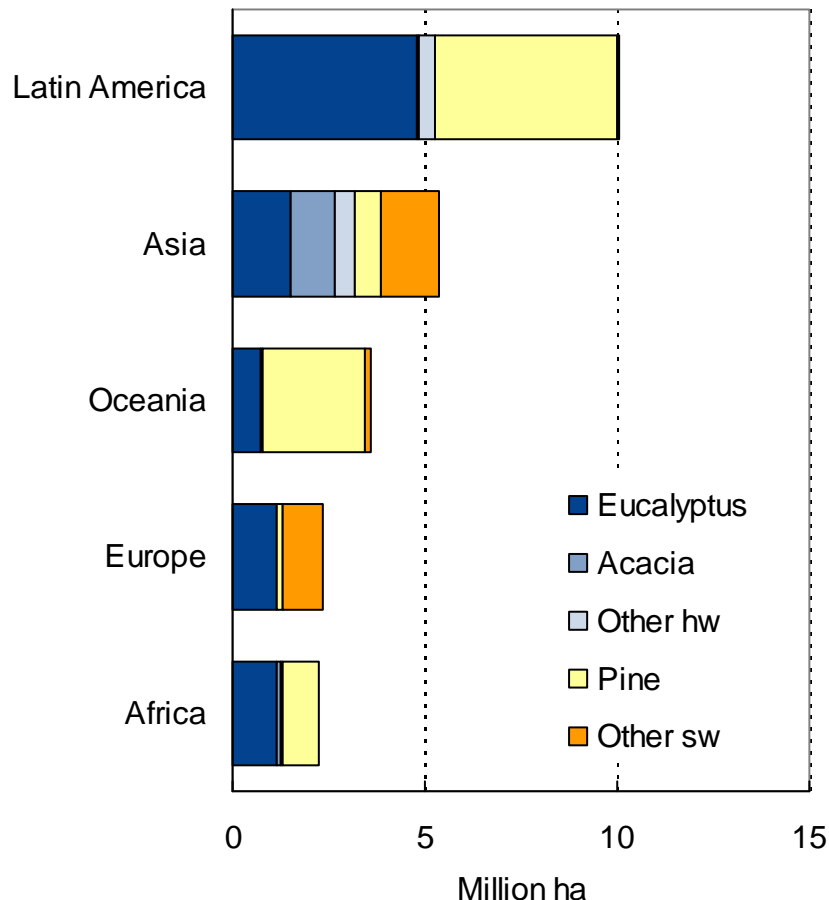
Global Forest Resource and Wood Availability Overview

Increased flow of wood fibre from plantation forests in Latin America, Southeast Asia, China and Oceania. Russia has a potential to become a major softwood fibre supplier. Intensifying competition for wood from bioenergy.



Major Supply Growth from Fast Growing Plantations

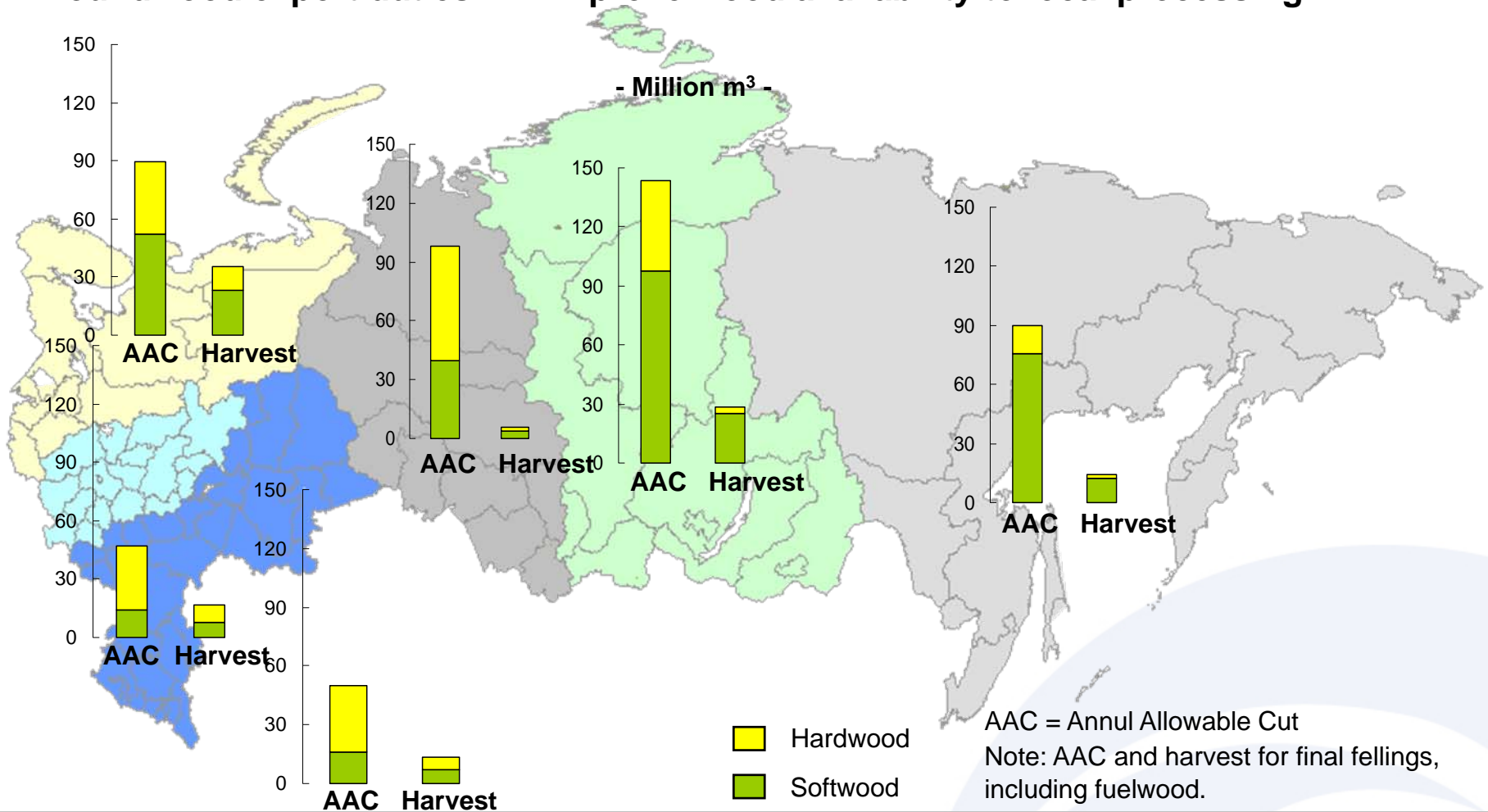
The global industrial fast-growing plantation resources are estimated at 24 million hectares, of which more than 40% are located in Latin America. About half of the future demand growth of industrial wood will be supplied from fast growing plantations. Plantation area will expand by 60% by 2020.



- Most of the fast-growing plantations are in southern hemisphere. Latin America has the largest industrial fast-growing plantation resources, 43% of the world's total area
- Because of their high yield, industrial fast-growing plantations play a larger role in global wood supply than what their share of total area would suggest
- Eucalyptus and pine dominate the industrial fast-growing plantations. Latin America and Oceania have the largest pine plantations
- Only pine used in significant scale for sawnwood, utilisation of eucalyptus and acacia still at marginal level.

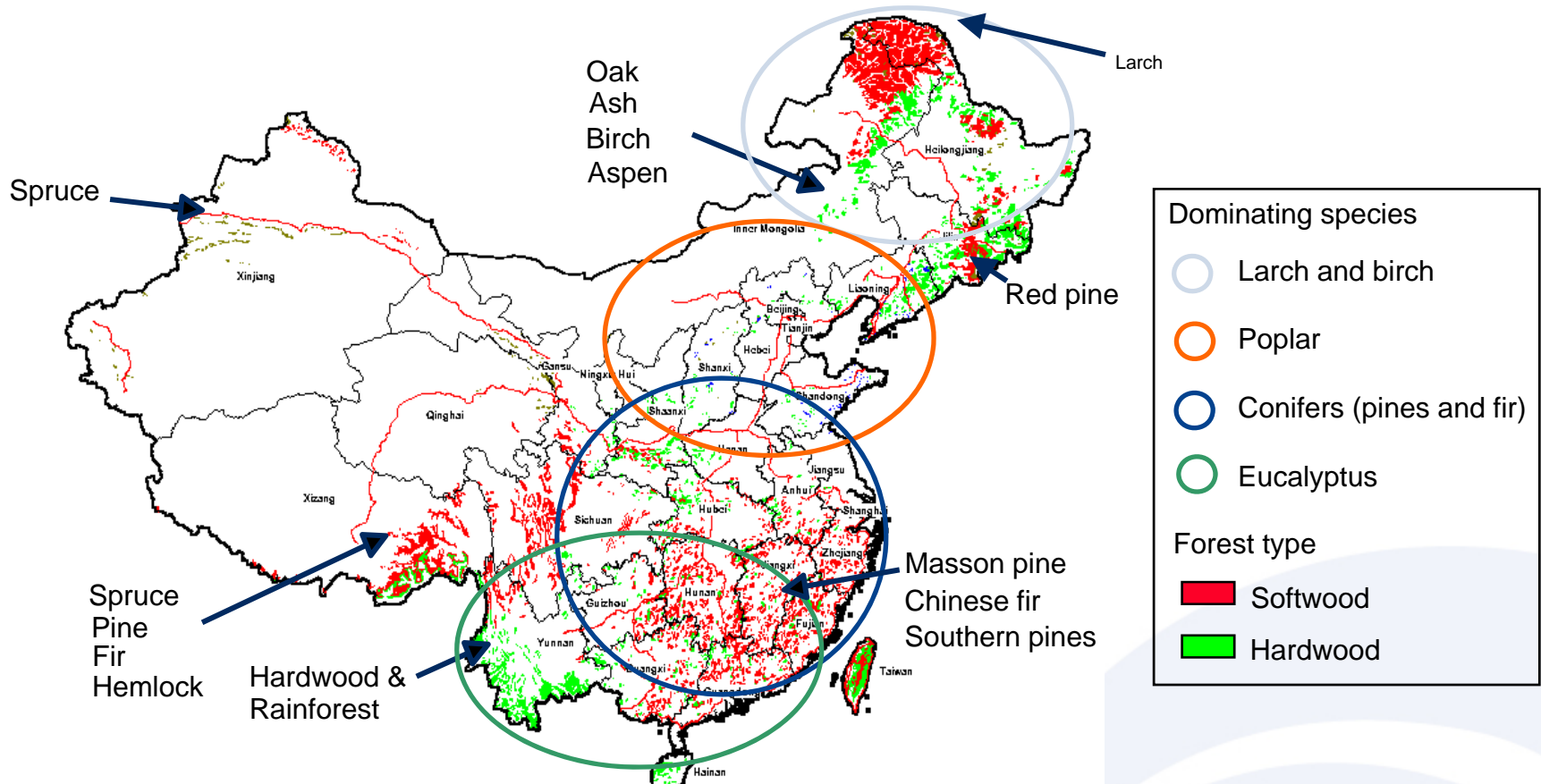
Potential Supply with Major Constraints in Russia

Underutilised harvest potential in nearly all regions, particularly of hardwood. Only a part of Russia's forest resources is currently economically accessible. Major growth potential in domestic wood-based construction market. Increasing roundwood export duties will improve wood availability to local processing.



Plantations Projects Cannot Meet Fibre Need by 2015

China has planted about 1 million ha of plantations per year since 1998 floods. Plantations act as shelterbelts against wind erosion and floods. Government plans to get 330 million m³ of wood raw material from plantations by 2015. Due to poor performance the real figure is estimated at 200 million m³.

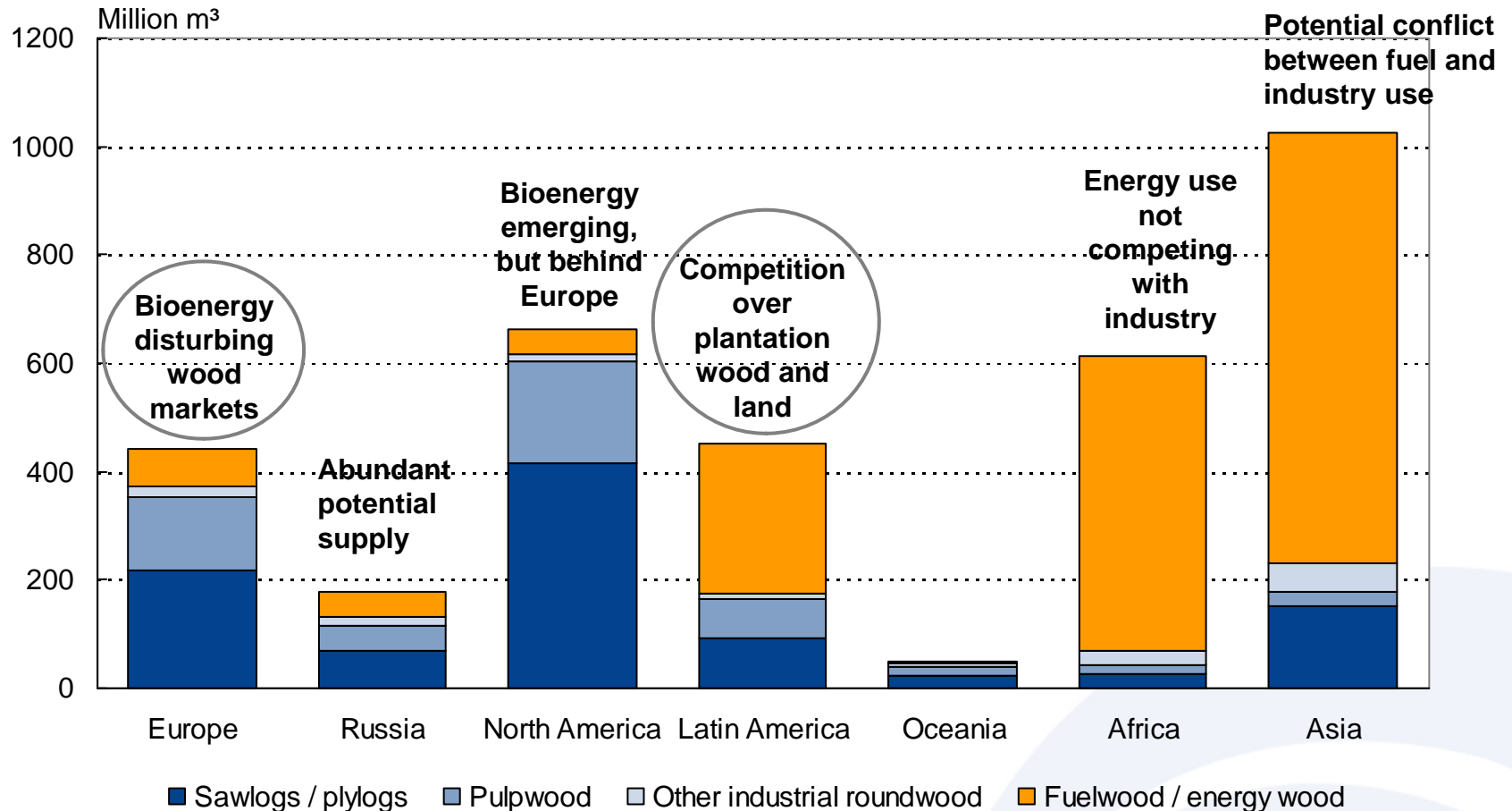


Source: Pöyry

2 Discontinuities in Wood Supply

Industrial vs. Energy Wood “War Frontiers”

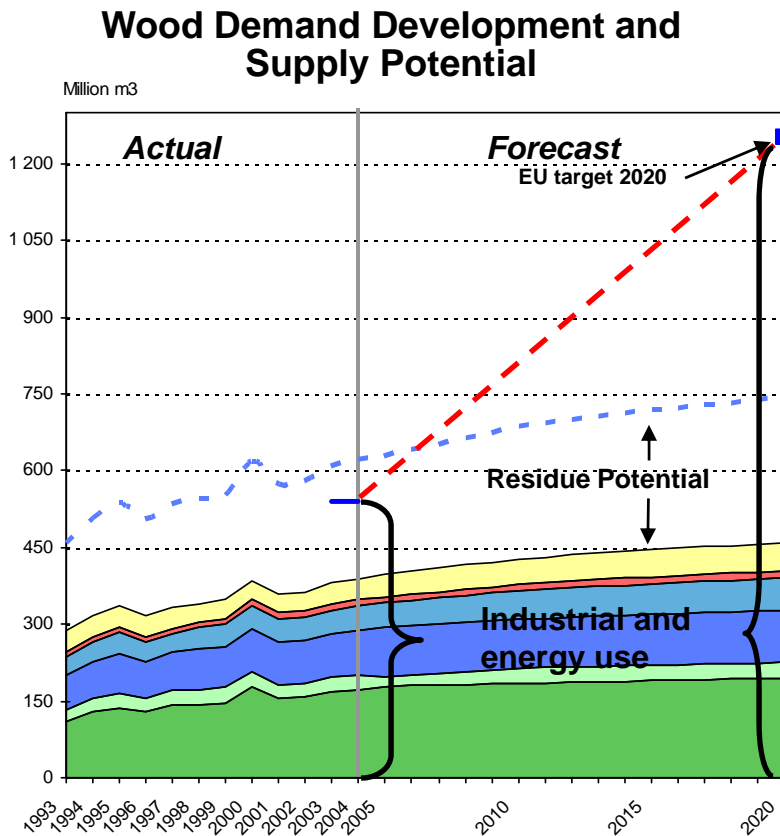
The share of fuelwood of the total roundwood harvest is the highest in Africa, Asia and Latin America whereas in other regions harvest structure is dominated by industrial wood.



Note: Figures refer to the year 2004

Industrial and Energy Wood Demand and Supply in EU 25

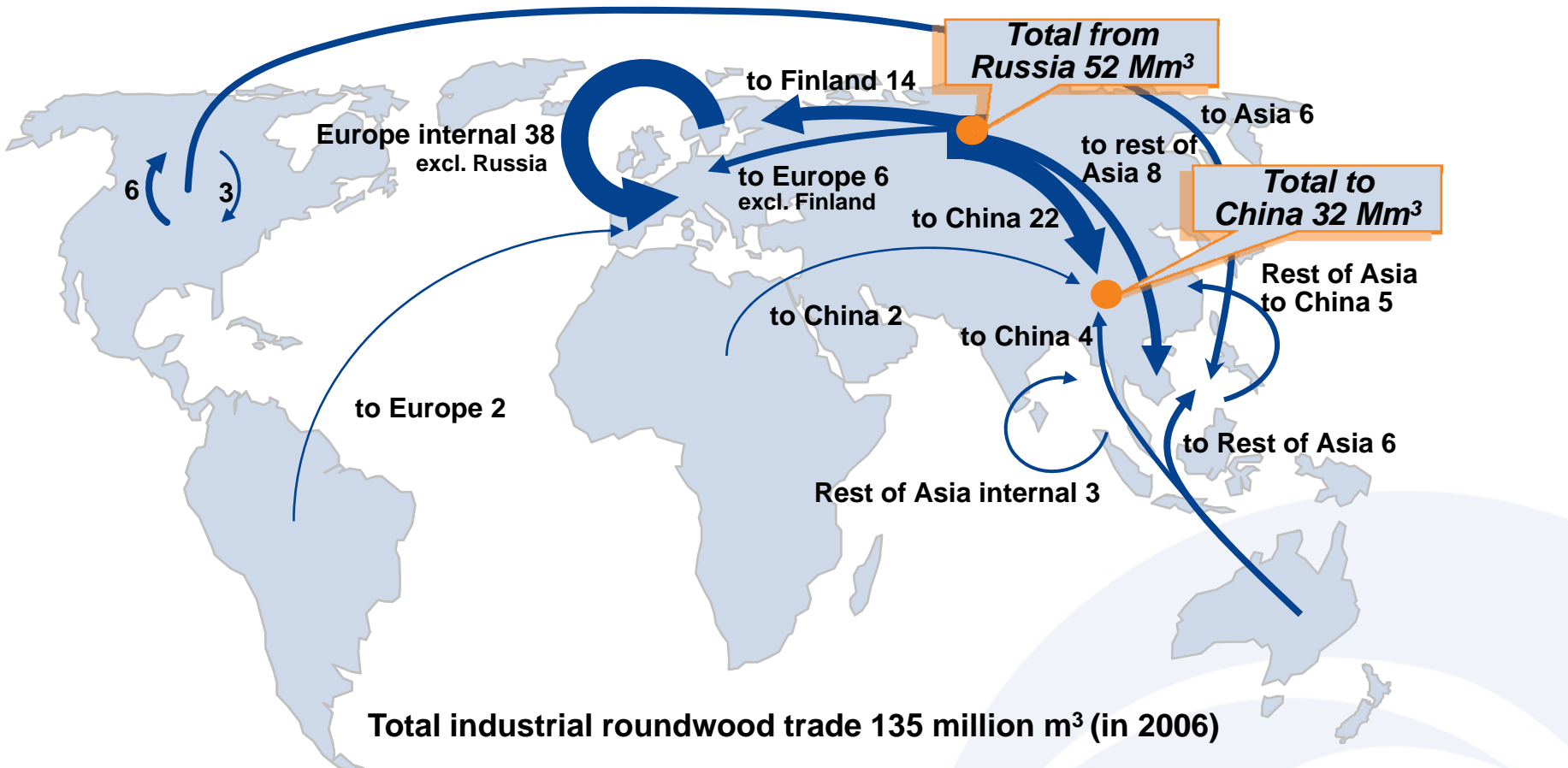
Even if the theoretical harvest and residue potential would be both fully utilised the current EU target for renewable energy with the current share of wood-based biomass within renewable energy sources is impossible to achieve on sustainable basis based on increased supply from EU forest resources.



- EU aims at achieving 20% renewable energy share of total final energy consumption by 2020. Assuming a current share of wood-based biomass within renewable energy sources (52%) the target means combined industrial and energy use of wood of over 1 200 million m3 in 2020. This is not possible to achieve on sustainable basis based on increased supply from EU forest resources.
- Market adjustment will take place through
 - the level of achievement of the EU target
 - the share of wood in renewable energy
 - increased use of residues and low quality wood
 - high-yield bioenergy plantations
 - import of renewable energy to EU
- Even if bioenergy is typically based on low quality wood, the expansion will also indirectly influence saw/plylog market.

Changing Role of Russia

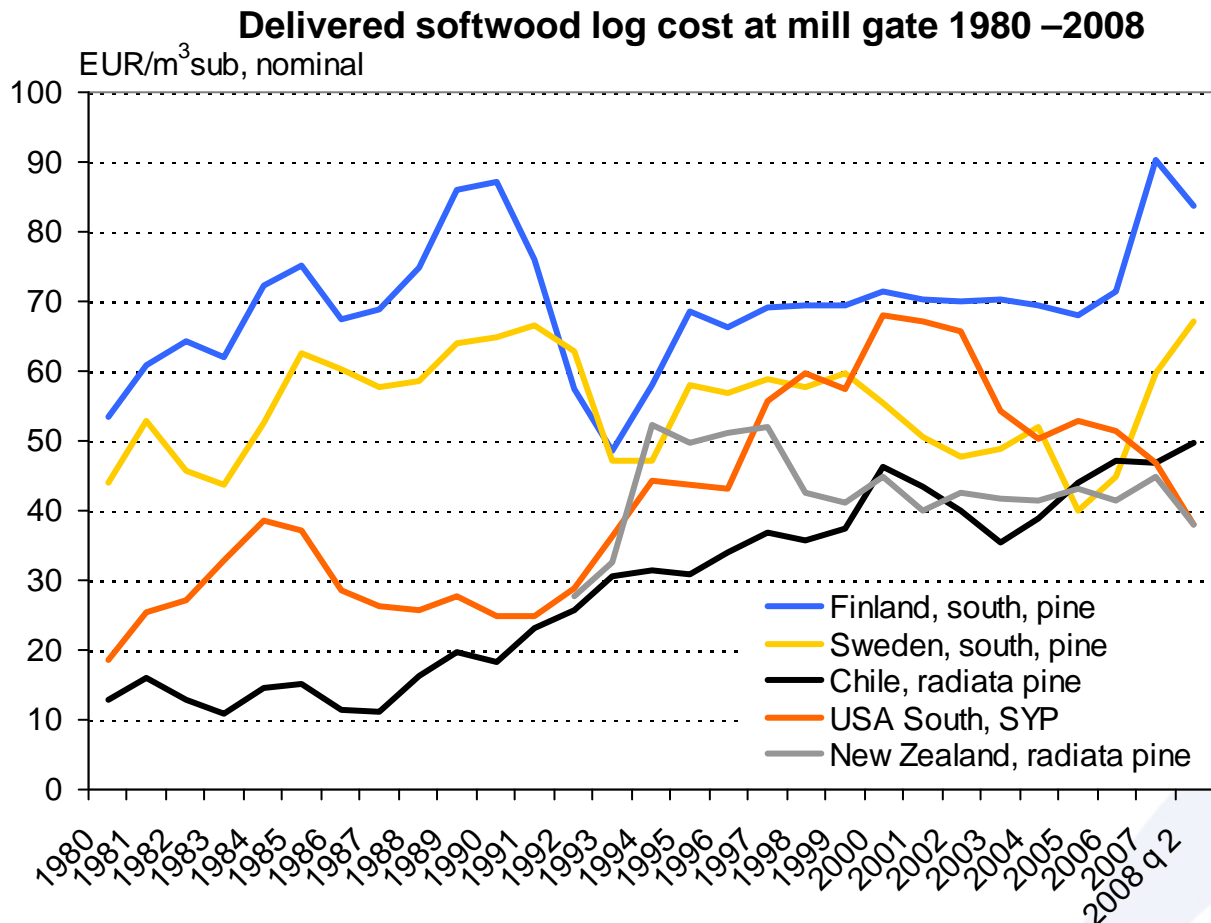
Increasing export duties of roundwood in Russia are resulting in a major discontinuity in the global trade. China and Finland will face the largest wood deficit, already resulting in capacity closures. Investments to wood processing are increasing in Russia, but at much slower pace than the decline in roundwood exports. China's import requirement of sawn softwood will may grow by 6-10 million m³ in the short term.



Source: FAO
17 October, 2008

Development of Softwood Log Cost

The cost development of wood in different regions shows a converging trend. Changes in exchange rates have led to large short term shifts in competitive position.



- Recent increase in prices in Sweden is mainly caused by good market situation of sawnwood
- In Finland prices increased significantly in 2006-2008 linked with decreasing import volumes from Russia and good market situation of sawn wood.
- In US South softwood sawlog prices have decreased in local currency since 2000, but weak exchange rate has had a larger major impact.

3 Outlook –Challenges and Opportunities Ahead

Wood as Construction Material

Wood has environmental advantages as construction material compared to other materials. Evergreen assessment methodology developed by Pöyry takes simultaneously into account all key issues such as renewability, material use efficiency, waste recovery and product lifetime in the environmental impact assessment.

Glass

- non-biogenic raw materials
- + efficient manufacturing process
- + good recycling possibilities
- + long product lifetime

PVC Plastic

- non-biogenic raw materials
- some obstacles to efficient recovery
- uncertainty about lifetime

Wood

- + biogenic raw materials
- + efficient recovery, also possibility to incinerate
- lengthening the product lifetime requires proper maintenance

Brick

- non-biogenic raw materials
- efficient manufacturing process
- long lifetime

Concrete

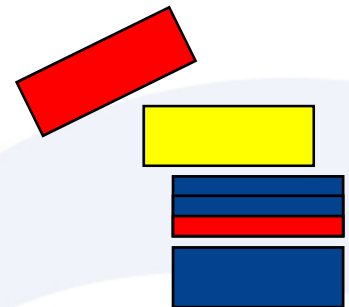
- non-biogenic raw materials
- + efficient manufacturing process
- requires reinforcement for long lifetime

Primary Steel

- non-biogenic raw materials
- significant process losses
- + long lifetime

Secondary Steel

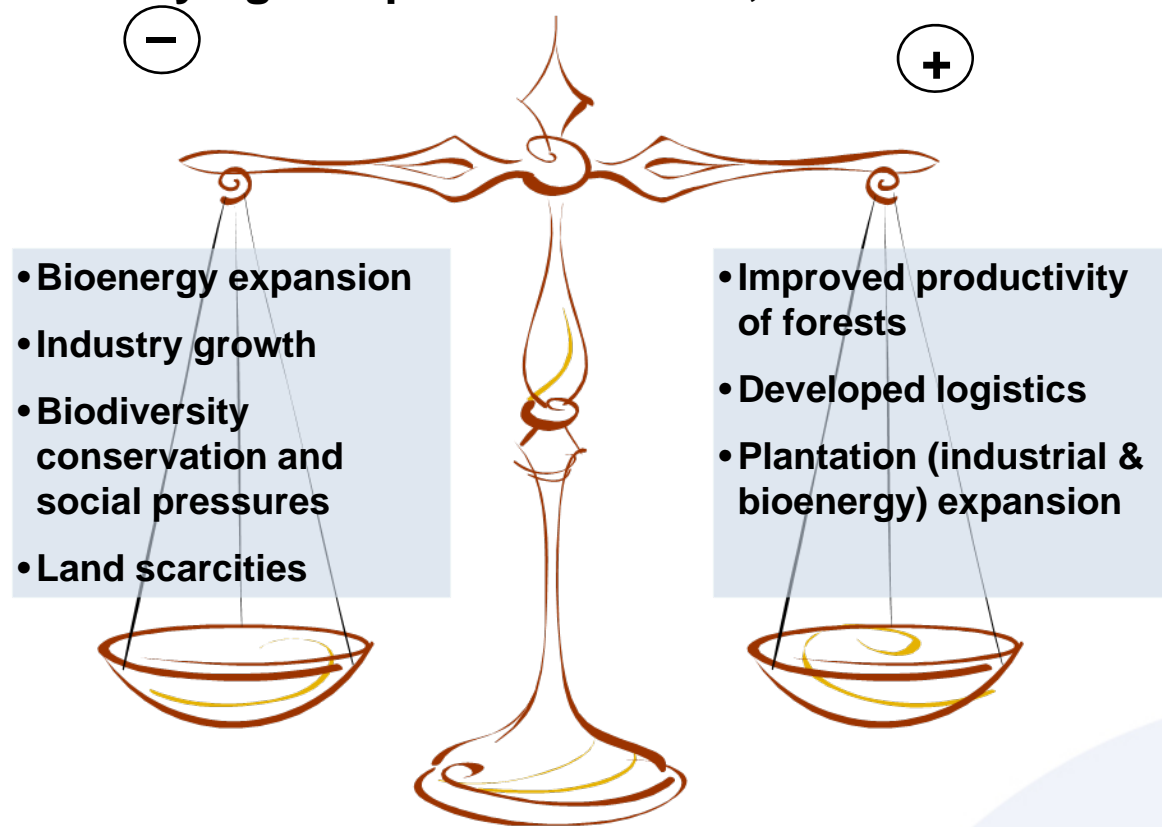
- non-biogenic raw materials
- + recycled raw materials, smaller production losses
- + long lifetime



Future Wood Balance?

Climate change / “carbon trade”?

Intensifying competition for land, water and food



The industry needs to make a holistic revision of the fibre strategy to succeed in the future