



Engineering balanced sustainability™



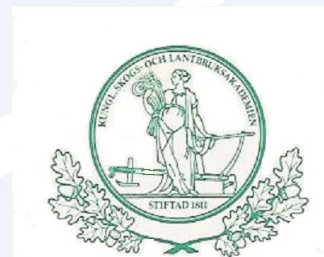


***“The global need for food, fibre and fuel  
– is there enough land to satisfy the demands?”***

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***Global demand for wood and fibre in the next 20 years***

KSLA, Stockholm  
27 September 2011



# Agenda

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- Introduction
- Industrial wood demand and supply perspectives
- Conclusions



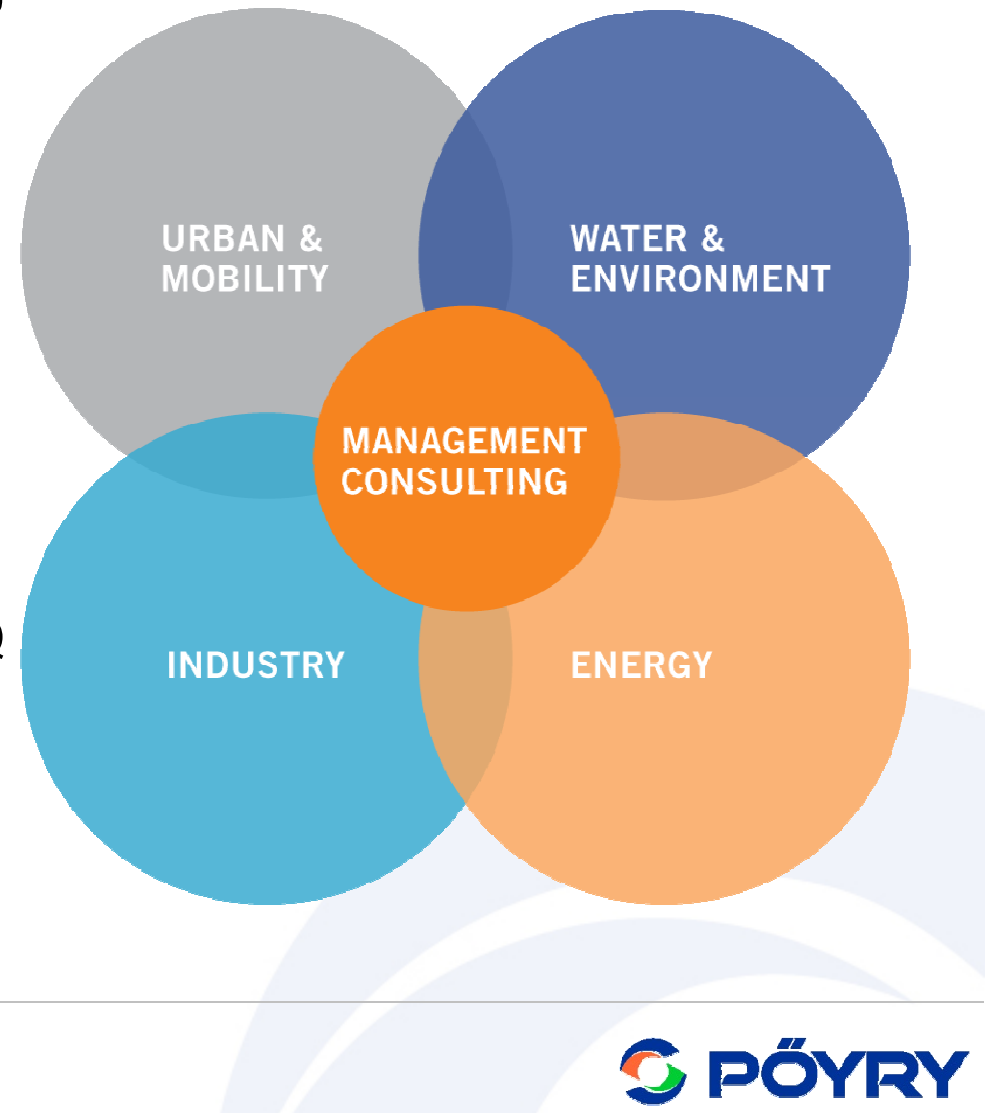
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## **Introduction**

# Pöyry – Leading consulting and engineering globally

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- Pöyry Group – globally operating consulting and engineering company
- Ca 7000 experts in 50 countries
- Net sales in 2010 of EUR 682 million
- Started 1958. Listed at NASDAQ OMX Helsinki since 1997
- Dedicated to engineering balanced sustainability™



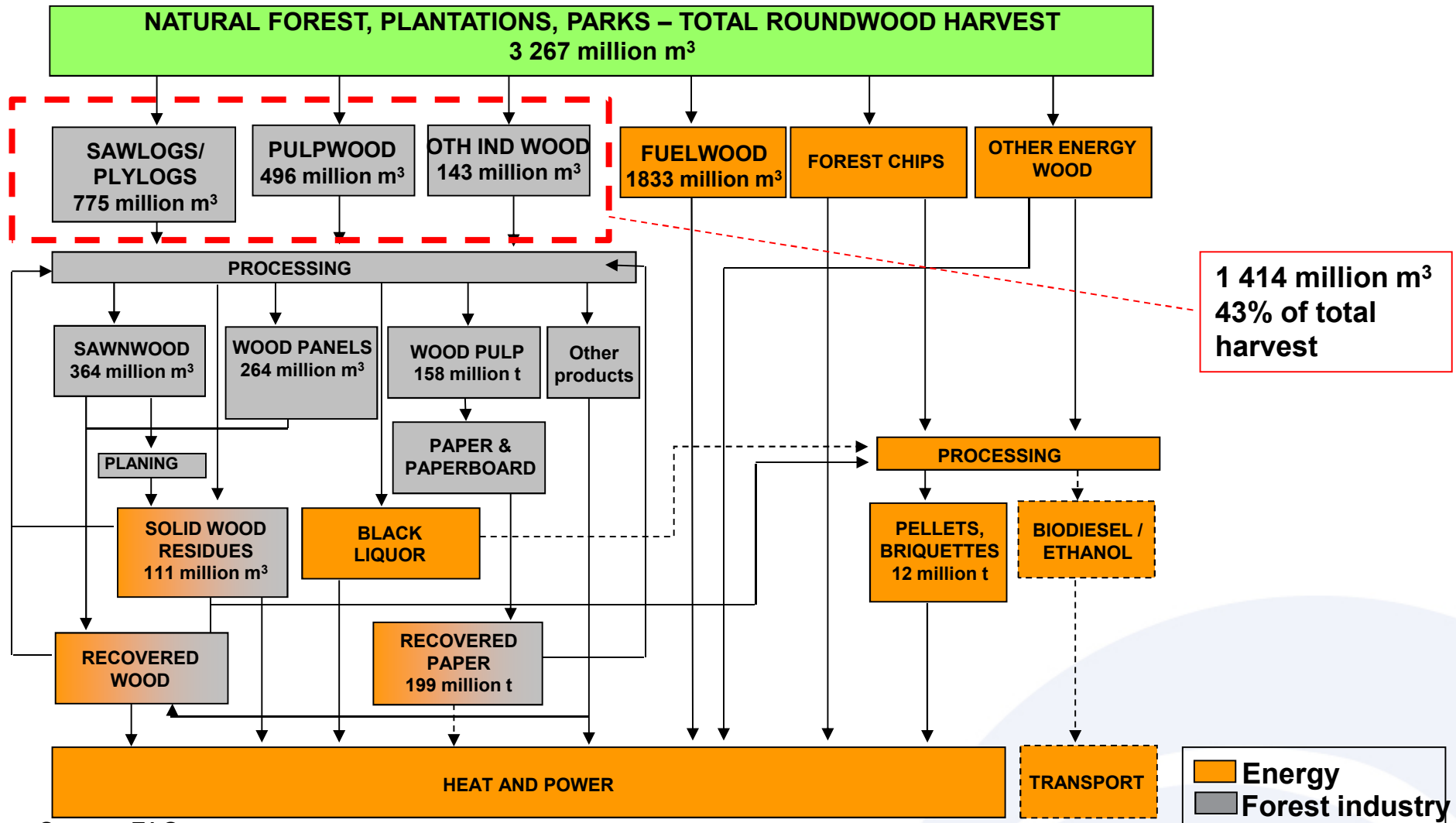


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## **Industrial wood demand and supply perspectives**

# Global forest industry demand for wood and fibre is sizeable

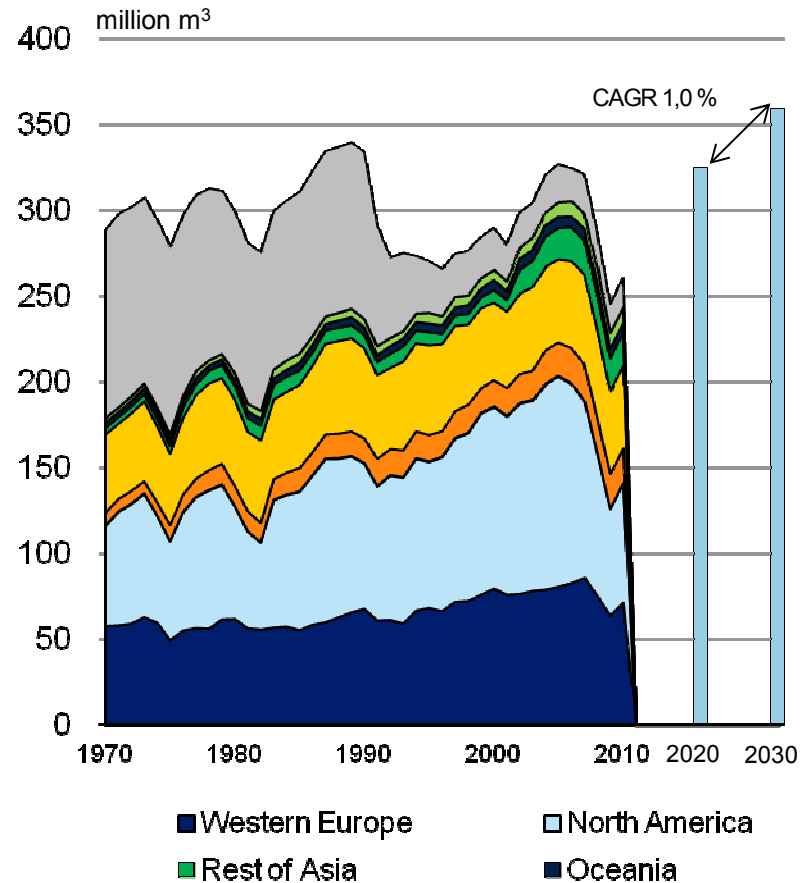
Global harvest and wood use by end-use category, 2009



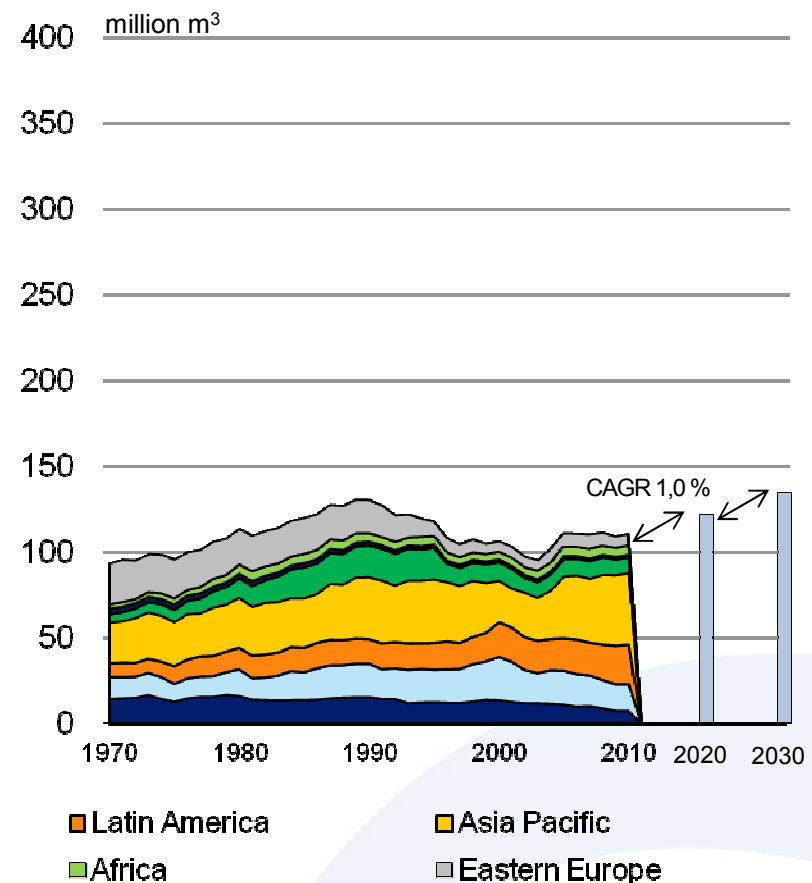
Source: FAO

# Continued growth in sawnwood demand, mainly softwood

**Softwood sawnwood demand by region, 1970-2010 and scenario 2030**



**Hardwood sawnwood demand by region, 1970-2010 and scenario 2030**

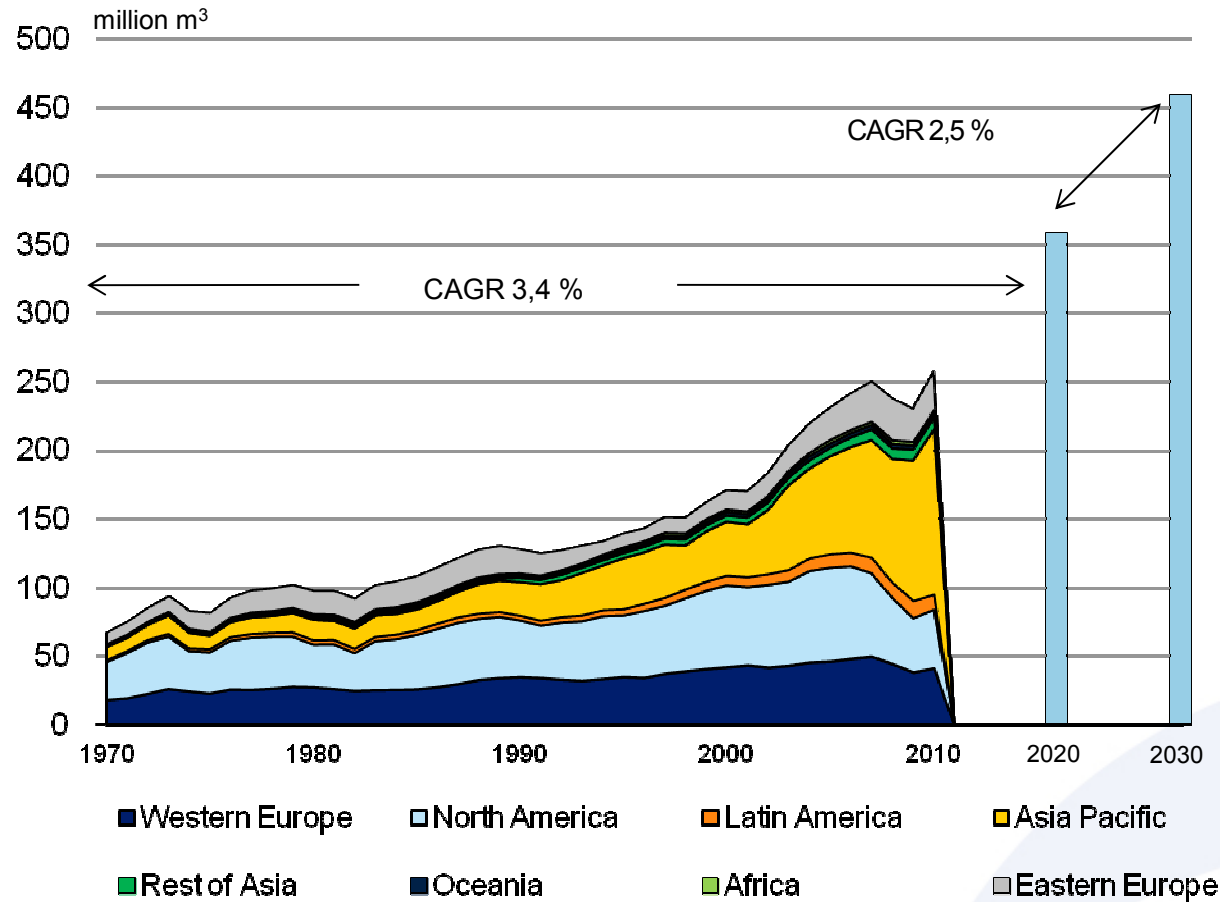


Source: FAO, various industry sources and Pöyry, scenario by Pöyry



# Rapid growth in wood-based panels demand – SW substitute

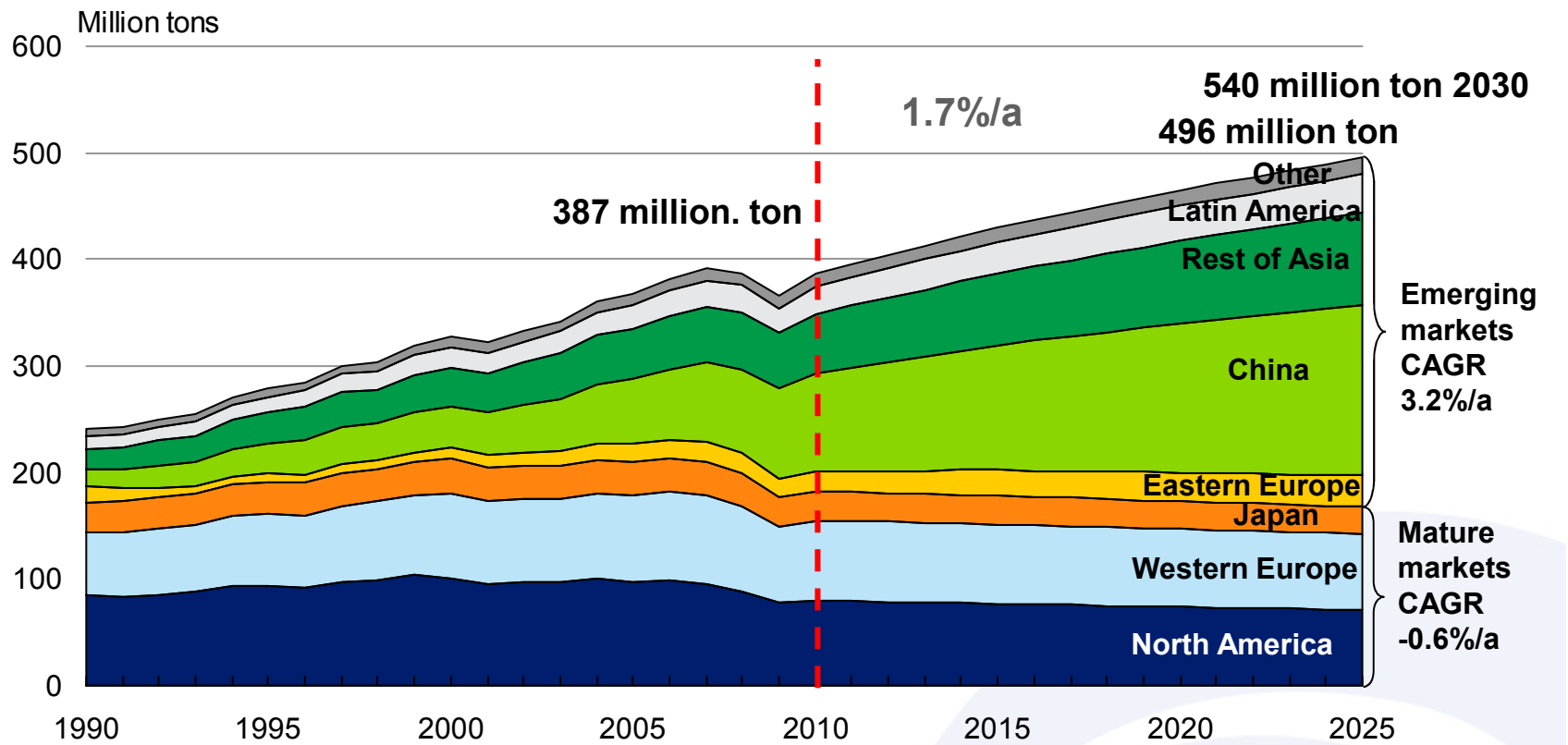
Wood-based panels demand by region,  
1970 – 2010, scenario 2030



Source: FAO, various industry sources and Pöyry, scenario by Pöyry

# Continued consumption growth in paper and paperboard

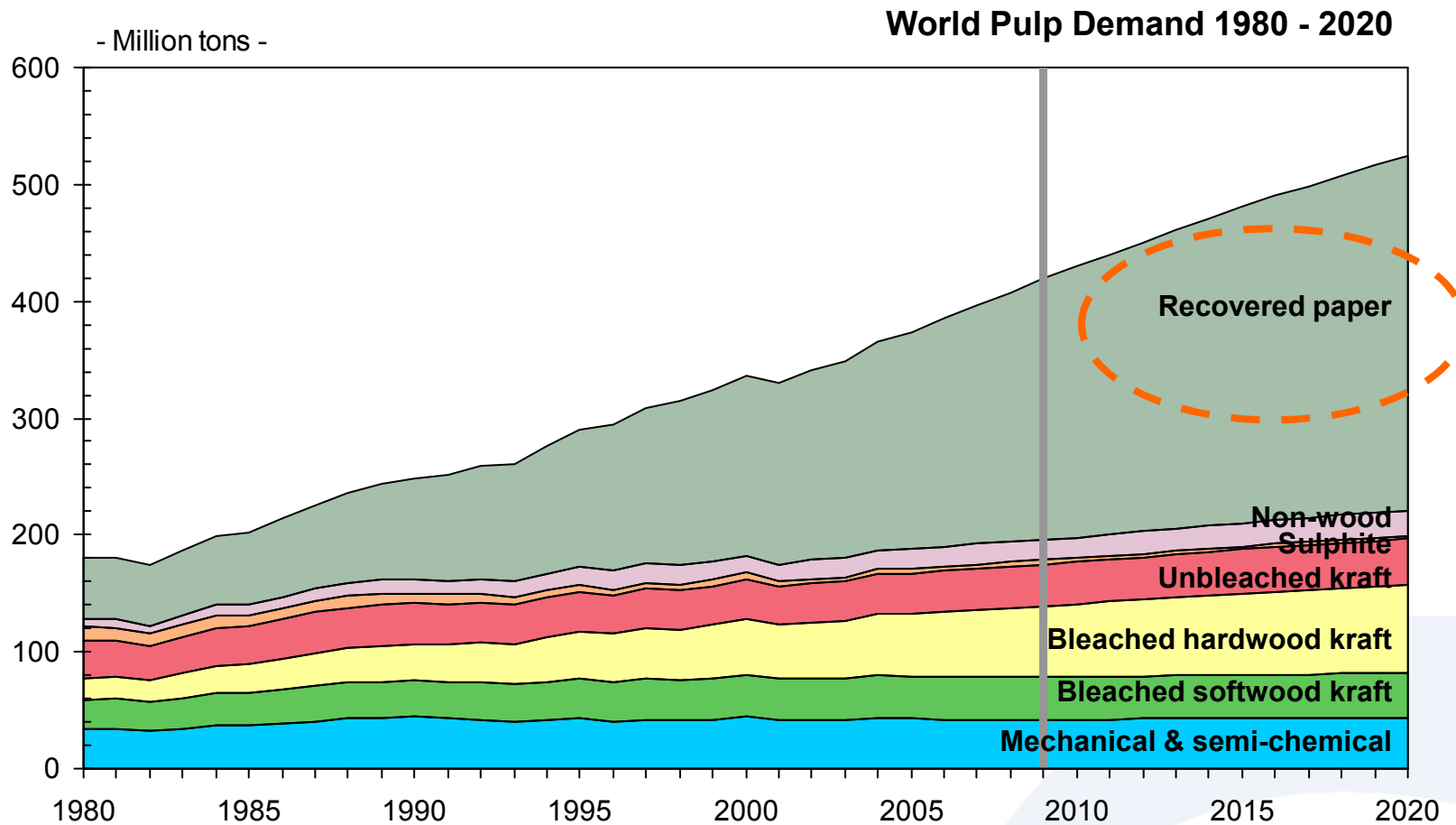
**Global demand for paper and paperboard 1990-2010, outlook to 2025**



Source: Pöyry

# Future fibre supply mainly from "urban forests"

## Global demand for pulp and recovered fibre by type, 1980 - 2020

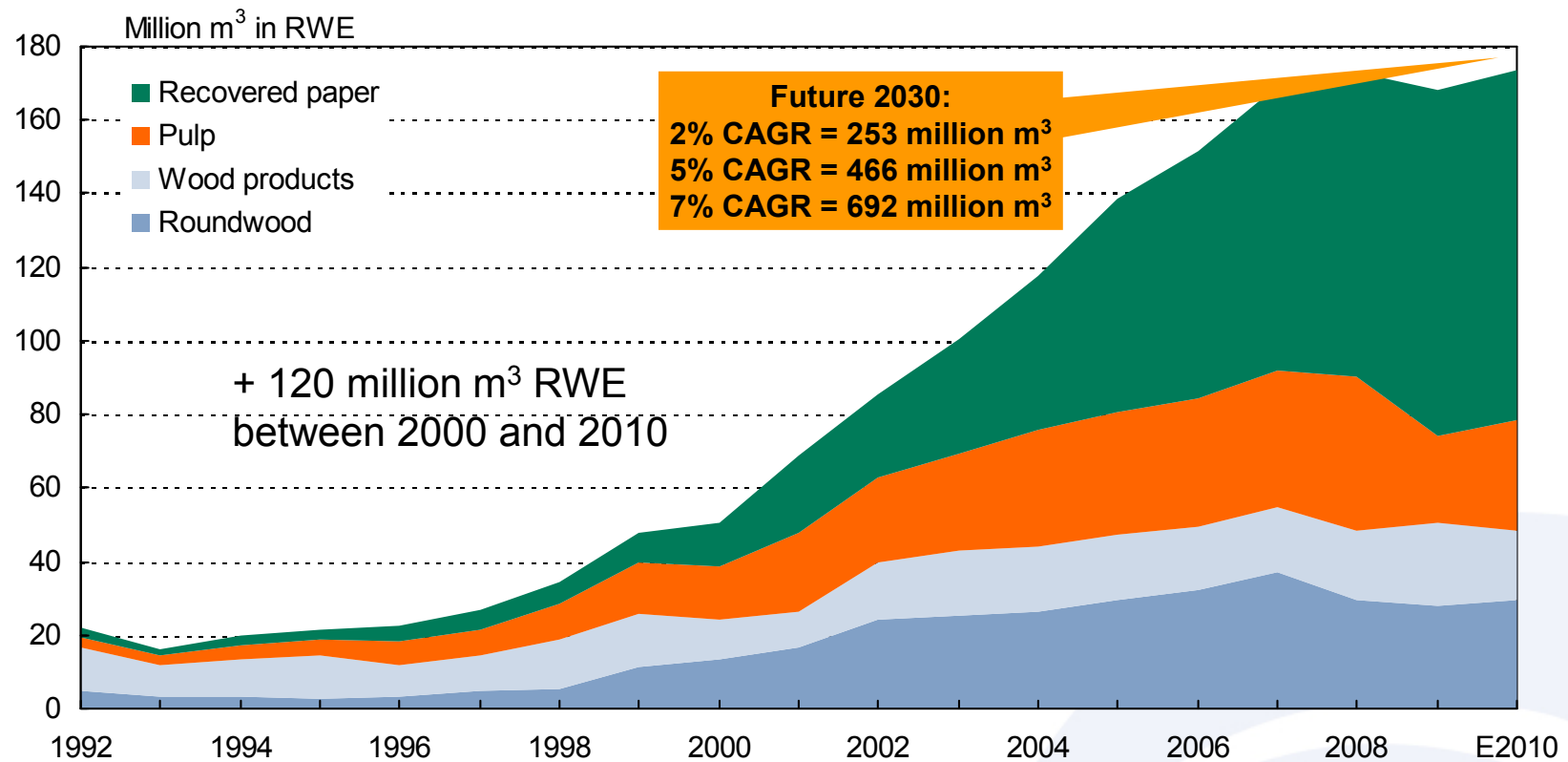


Note: Including integrated and market wood pulps.

Source: Pöyry

# China a strong driver and force for future use and trade in wood

## Import of wood and wood products to China 1992-2010e, RWE



Source: Comtrade

## Industrial wood demand increase to 2030 is sizeable

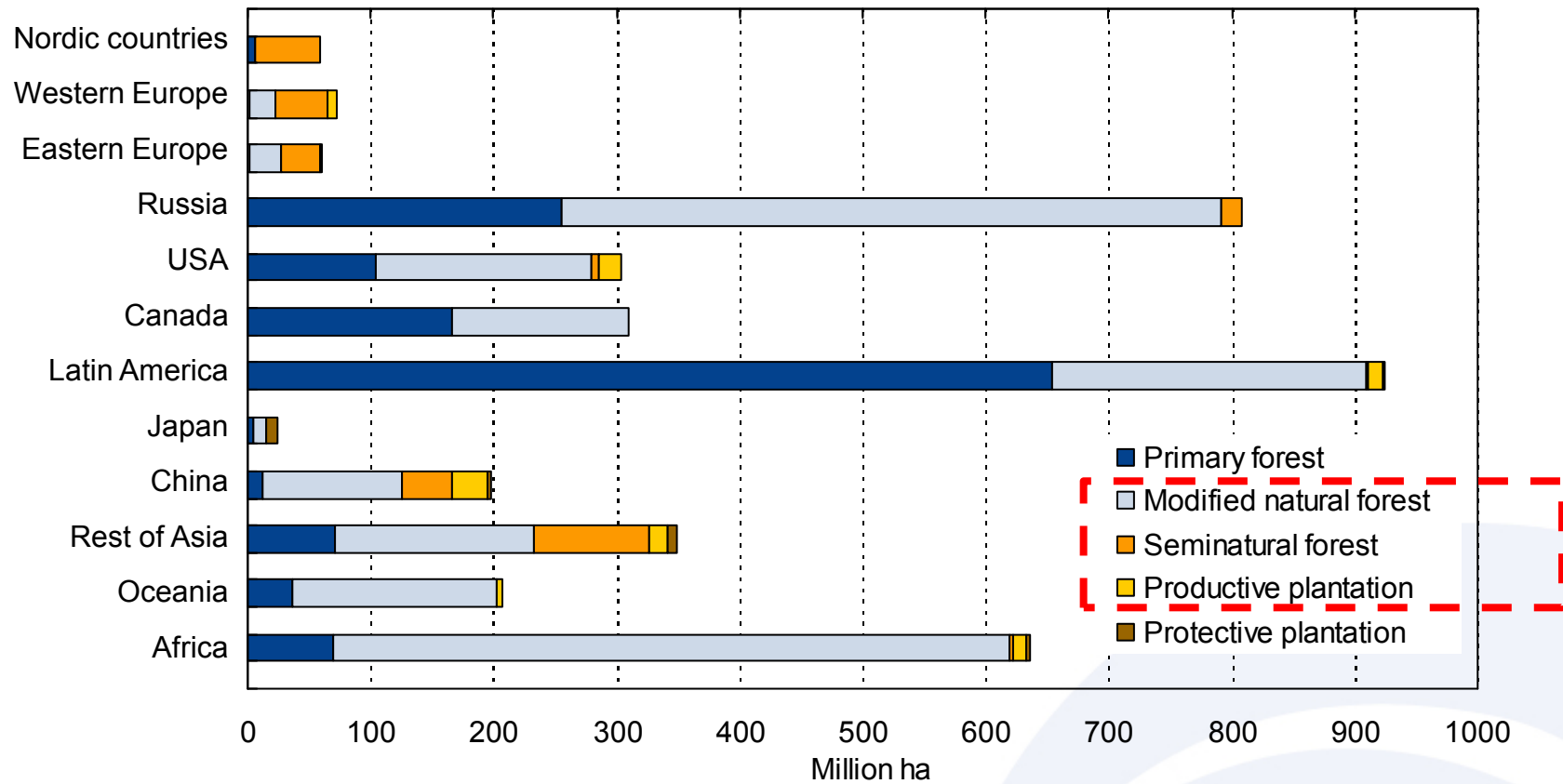
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Product Area	RWE Increase 2010-2030 <sup>A</sup>
Pulp & Paper <sup>B</sup>	150 million m <sup>3</sup> sub
Sawnwood <sup>C</sup>	250 million m <sup>3</sup> sub
Wood-based panels	400 million m <sup>3</sup> sub
TOTAL (gross)	800 million m <sup>3</sup> sub
TOTAL (net) <sup>D</sup>	700 million m <sup>3</sup> sub

- A) Increase according to Pöyry scenario in KSLA presentation
- B) Virgin pulp based demand increase
- C) Softwood & hardwood sawnwood including demand recovery 2020
- D) Including utilization of sawnwood residues in pulp and panels

# Industrial wood mainly from natural forests and plantations

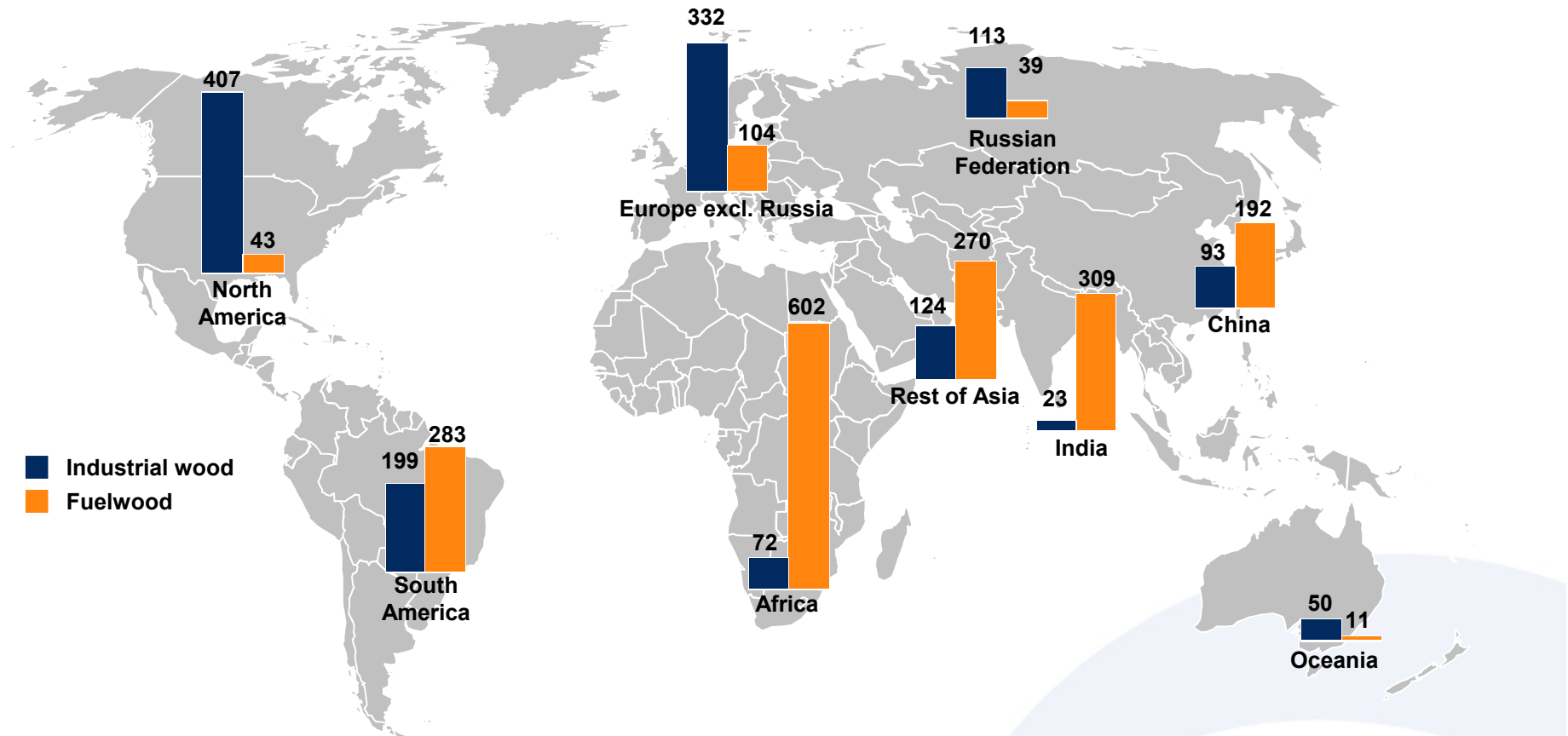
Division of world forests by region and forest type



Source: FAO

# Can fuelwood be put to “better use” and “industrialised”?

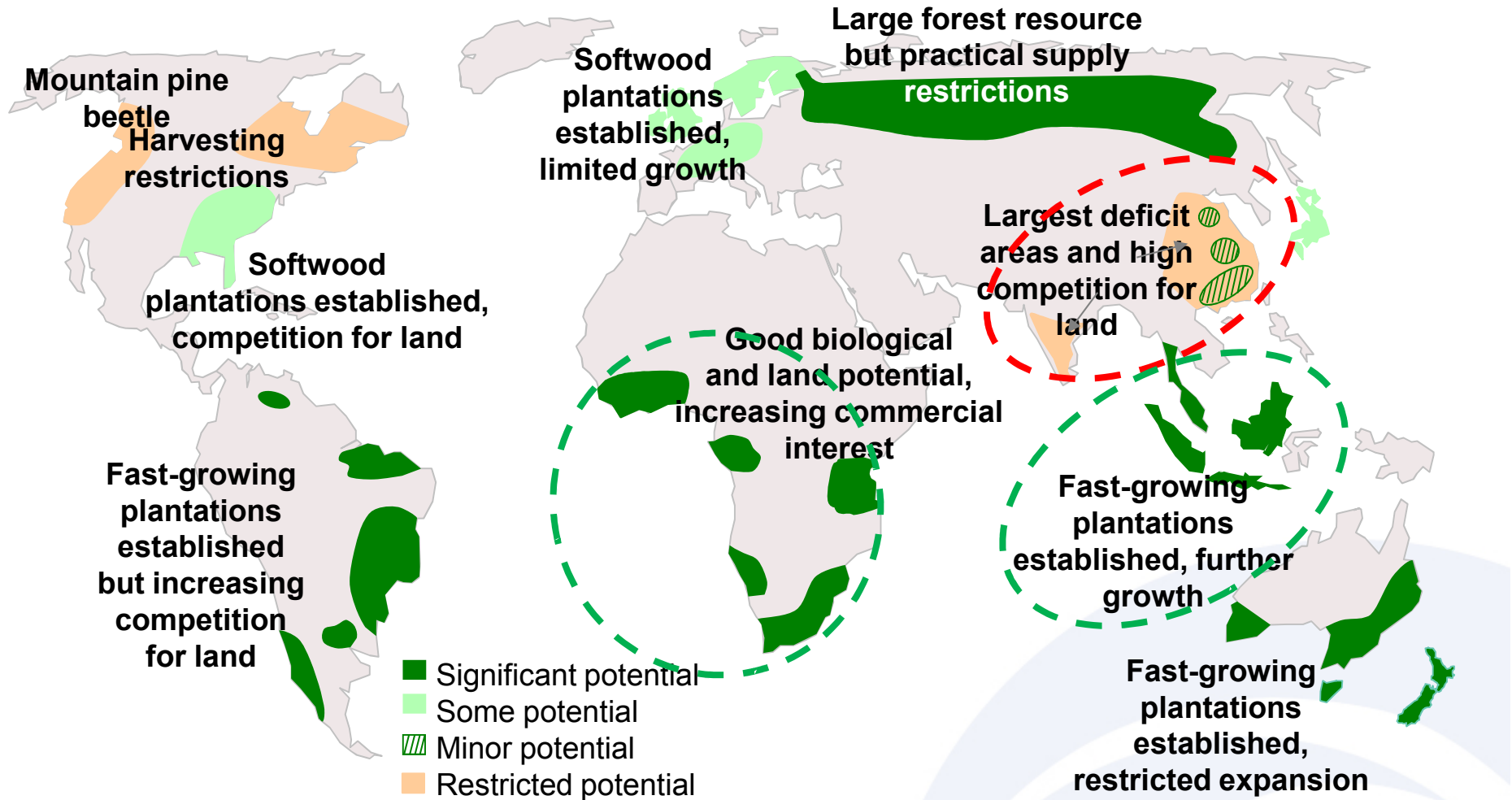
Global roundwood production by region 2009 (million m<sup>3</sup>)



Source: FAO

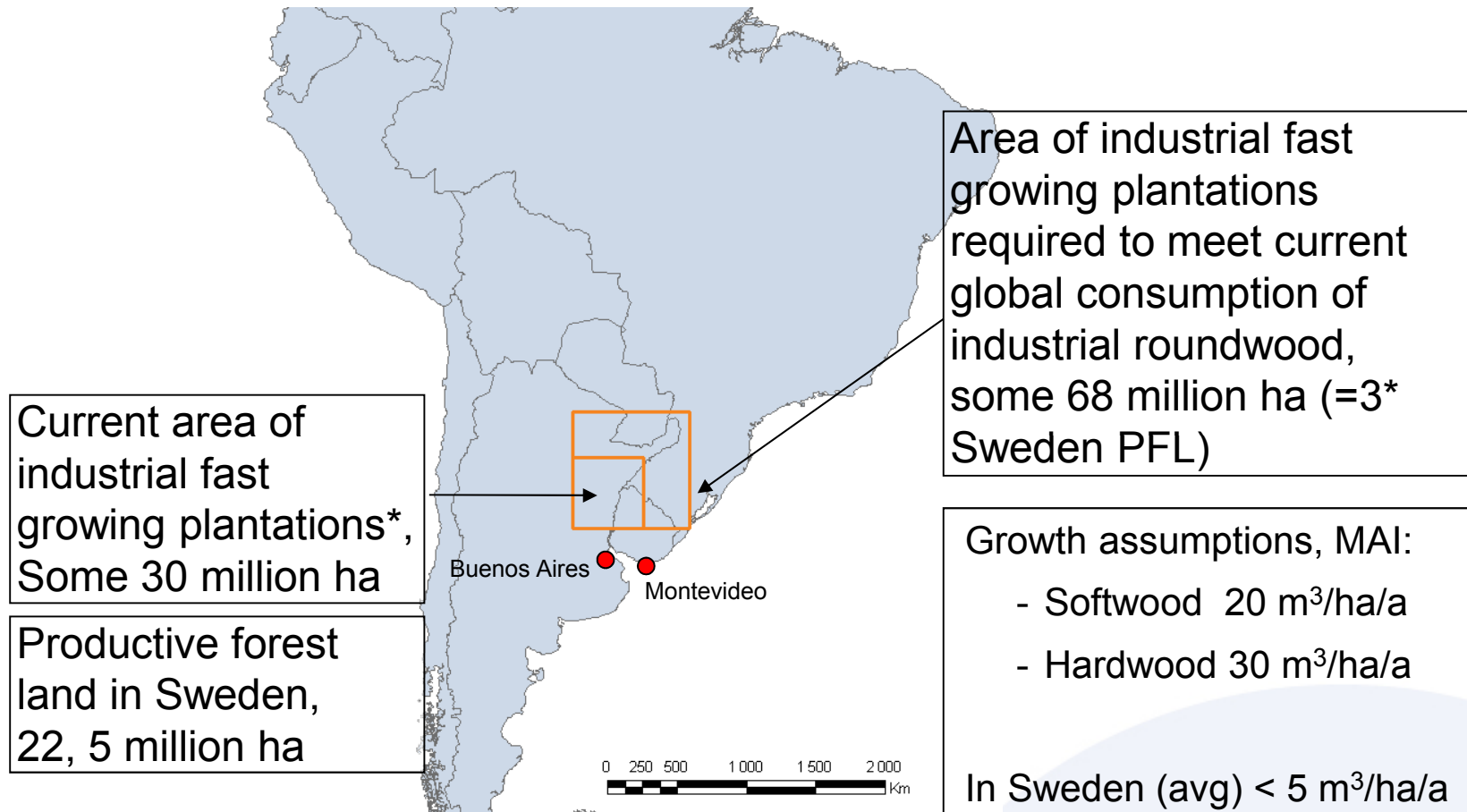
# Growing challenges to future wood supply

*As global demand for wood-based products increases, pressure on natural forest resources is growing and industrial plantations are becoming ever more important for securing future wood supplies in a sustainable and ethical manner.*





# Fast growing plantations hold great production potential



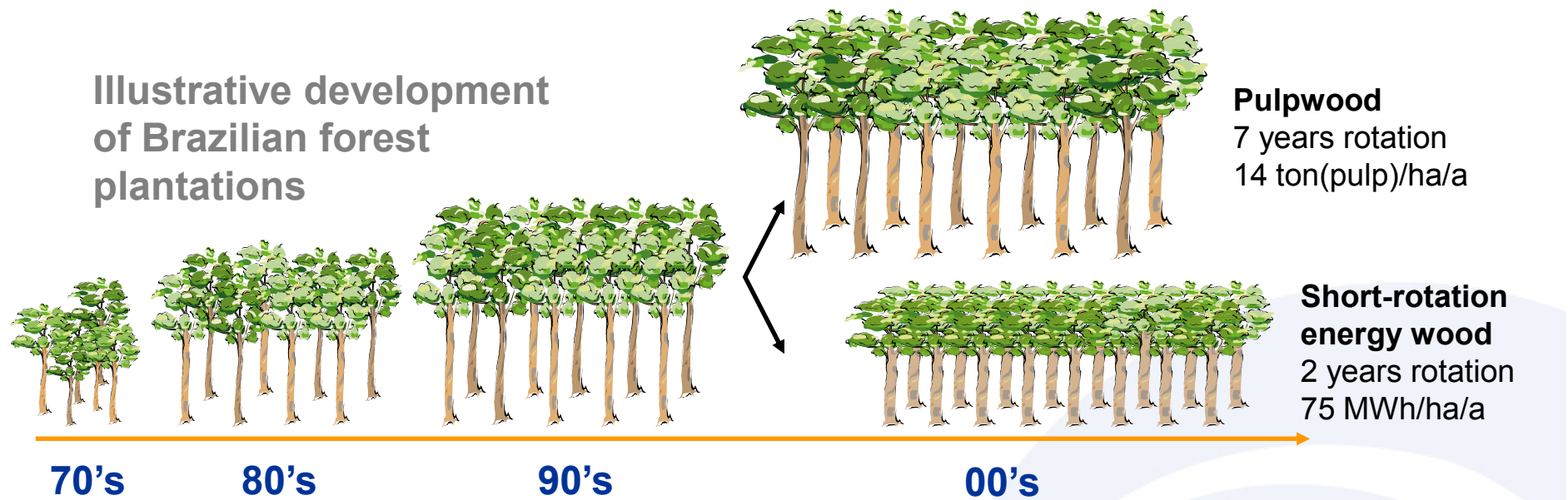
\* Plantations cover more than 156 million hectares. Some 120 million hectares are classified as productive plantations, while the balance consists of protective plantations (protection of soil, water). Industrial fast-growing plantations have been separated from other productive plantations based on the following criteria:

- Established totally or partly for production of wood for industry mainly as sawlogs, veneer logs or pulpwood
- Mean annual increment (MAI) exceeding 12 m<sup>3</sup>/ha/a

Source: Pöyry

# Significant improvements in plantation production and yield

70's	80's	90's	00's	Yield unit
20	35	40	50	m <sup>3</sup> (wood)/ha/a
4.2	4.0	3.6	3.5	m <sup>3</sup> (wood)/ton(pulp)
5	9	11	14	ton(pulp)/ha/a



Source: Pöyry



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**Conclusion**

## Forest products demand growth impacts future land use

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- ✓ Positive long term outlook for global forest products demand and continued growth in demand for roundwood /wood fibre.
- ✓ Growth in wood products demand mainly from Asia (China!) and developing world where land is or is becoming a scarce resource – increasing pressure.
- ✓ Industrial fast growing plantations hold significant and growing supply potential – strong development.
- ✓ Combined land utilization (e.g. agro-forestry) increasingly valuable to meet different and growing demands for land and (fuel) wood use.
- ✓ Forest products part of providing sustainable solutions for a complex world.



# Thank you for your attention!

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