FOREST PLANTATIONS AND FOREST-BASED INDUSTRIES OUTLOOK AND SUSTAINABILITY

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Pedro Ochoa

OUTLINE

1.- FORESTS PLANTATIONS GLOBAL AREA NEED TO BE INCREASED

1.1.-SUPPORT FROM EU FOREST SUSTAINABILITY POLICY

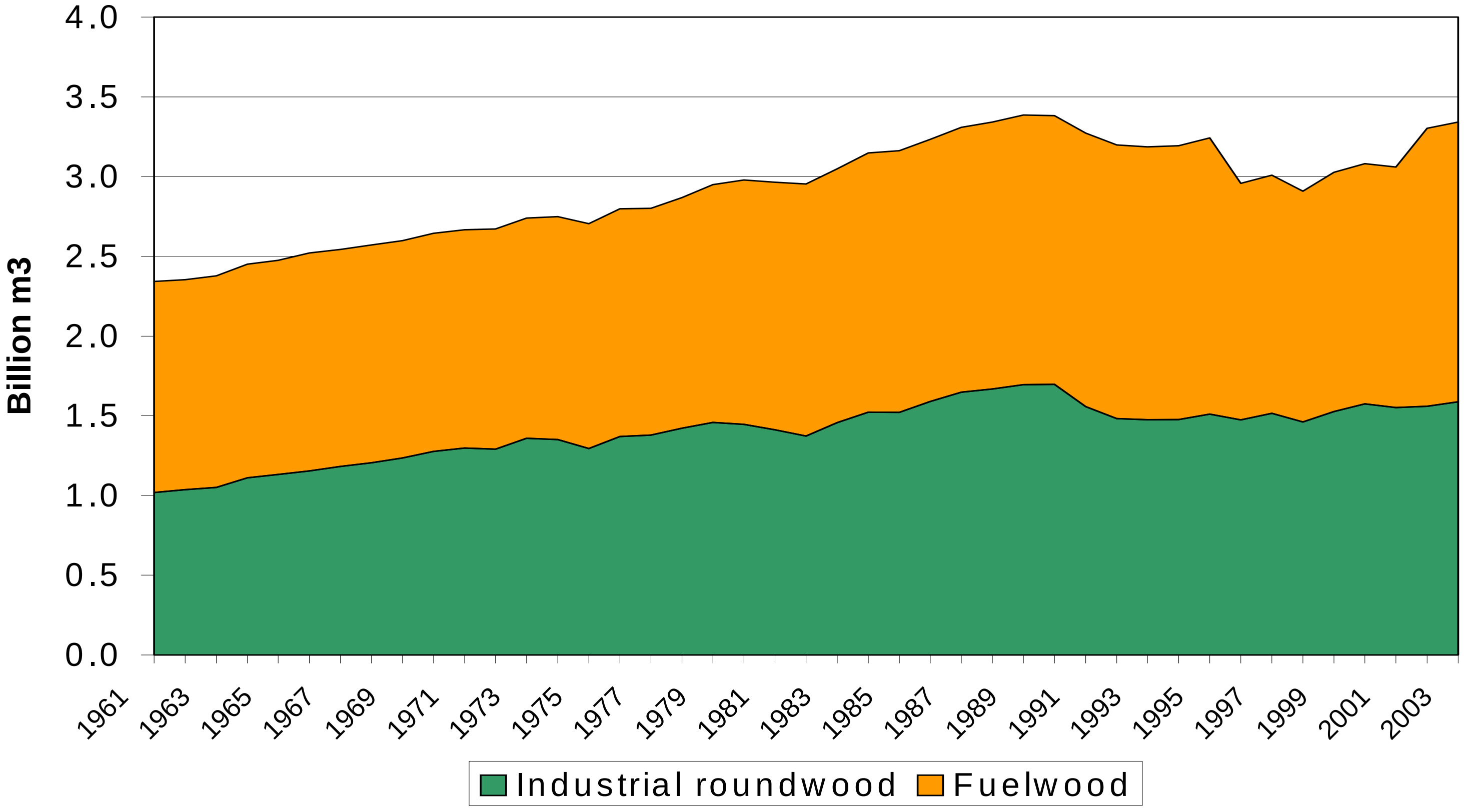
1.2.-FINANCIAL RESOURCES AND INSTRUMENTS (PRIVATE, EU, TIMBERLAND FUNDS)

2.-SUSTAINABLE STANDARDS FOR NEW PLANTATIONS

3.-FORESTRY CARBON MARKETS

1.- FORESTS PLANTATIONS GLOBAL AREA NEED TO BE INCREASED

GLOBAL ROUNDWOOD PRODUCTION (1961-2003)



Source: FAOSTAT

GLOBAL DEMAND FOR FOREST AND FOREST PRODUCTS IS GROWING

Global demand for wood-based products will continue growing despite current slowdown in the US and Europe

Paper & paperboard markets (major user of round wood)

- Global demand growing rapidly; emerging markets driving demand growth (3.7 – 4 %/a)
- In mature countries demand on average stagnating (about 0.5%/a) leading to capacity closures. However paperboard demand is still growing in mature western markets
- Paper will be produced where the market prospects are best and pulp close to fibre source
- Emerging markets offer Long Term market growth potential and cost competitive fibre
- New pulp mills in Latin America and Asia, and possibly in Russia
- Chinese paper & board production doubled since 2000

DRIVING FORCES OF INCREASING DEMAND FOR FOREST PRODUCTS

- Main demand drivers: population and GDP growth
- In China and India, GDP growth and demographic changes will have a very strong positive impact on demand
- ICT substituting for printed media; but ICT also increasing consumption of selected paper grades
- New demand for forest products
  - ✓ increased use of wood in construction
  - ✓ bioenergy/biofuels
  - ✓ chemical wood products
  - ✓ smart materials, special fibres

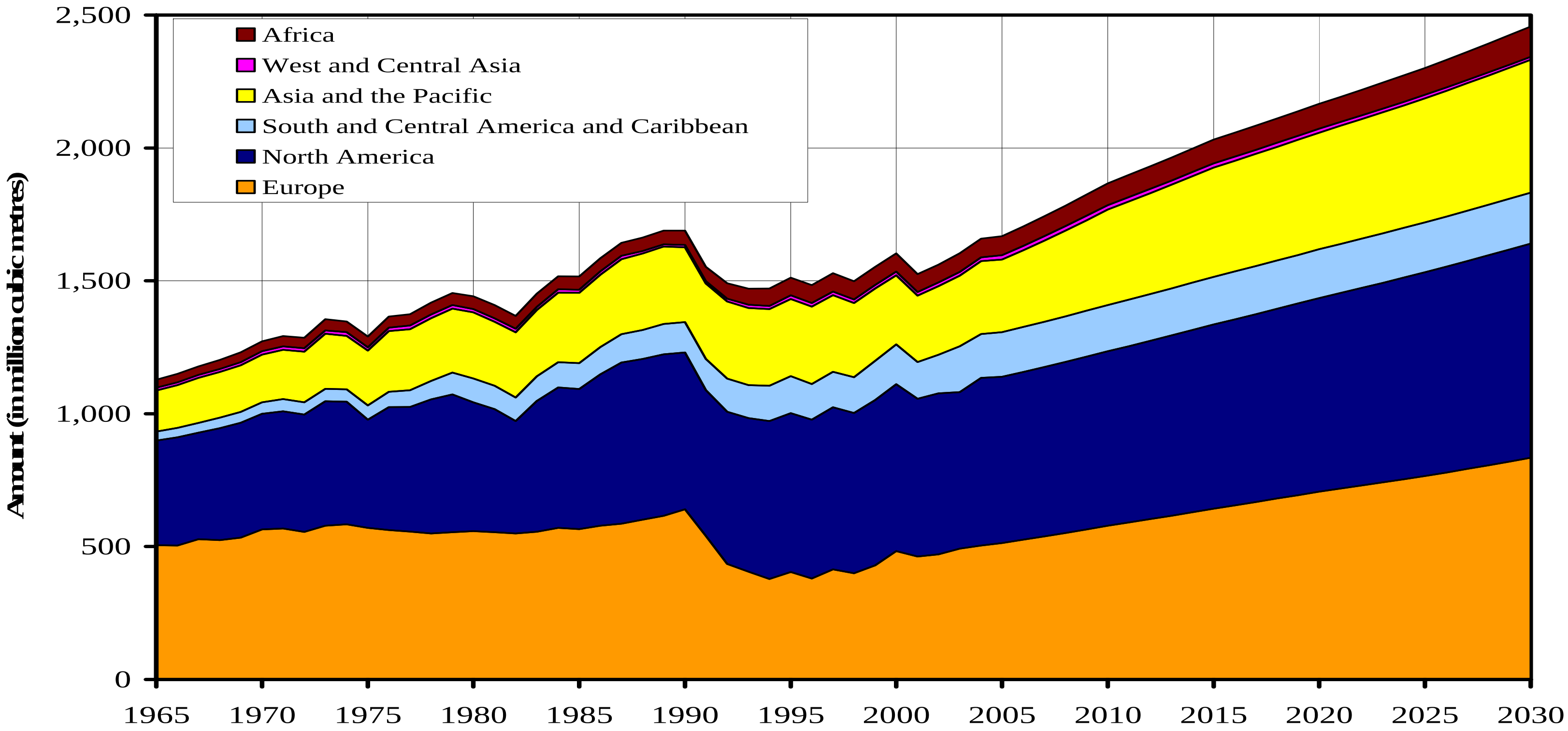
WOOD SUPPLY TRENDS TO MEET INCREASING RW DEMAND (1)

- Industrial RW requirements will grow from 1.8 bn m3 in 2007 to more than 2.5 bn m3/a in 2030
- Production of forests plantations in 2030 is expected to be 1.9 bn m3 increased from 1.2 bn m3 in 2005 according to an FAO scenario
- Most of the increase (700 million m3) will be sourced from plantations and improved management of natural forests in boreal zone

WOOD SUPPLY TRENDS TO MEET INCREASING RW DEMAND (2)

- Supply from natural forests will be limited because of increasing conservation pressures, REDD, deforestation, forest fragmentation, and increasing costs of accessing forests
- RW supply expansion from plantations will come also from productivity improvements (genetic improvement) and expanding the planted areas

PAST AND PERSPECTIVES OF INDUSTRIAL RW GLOBAL PRODUCTION (1965-2030)



Source: FAO 2009, draft

AREA REQUIRED FOR FOREST PLANTATIONS

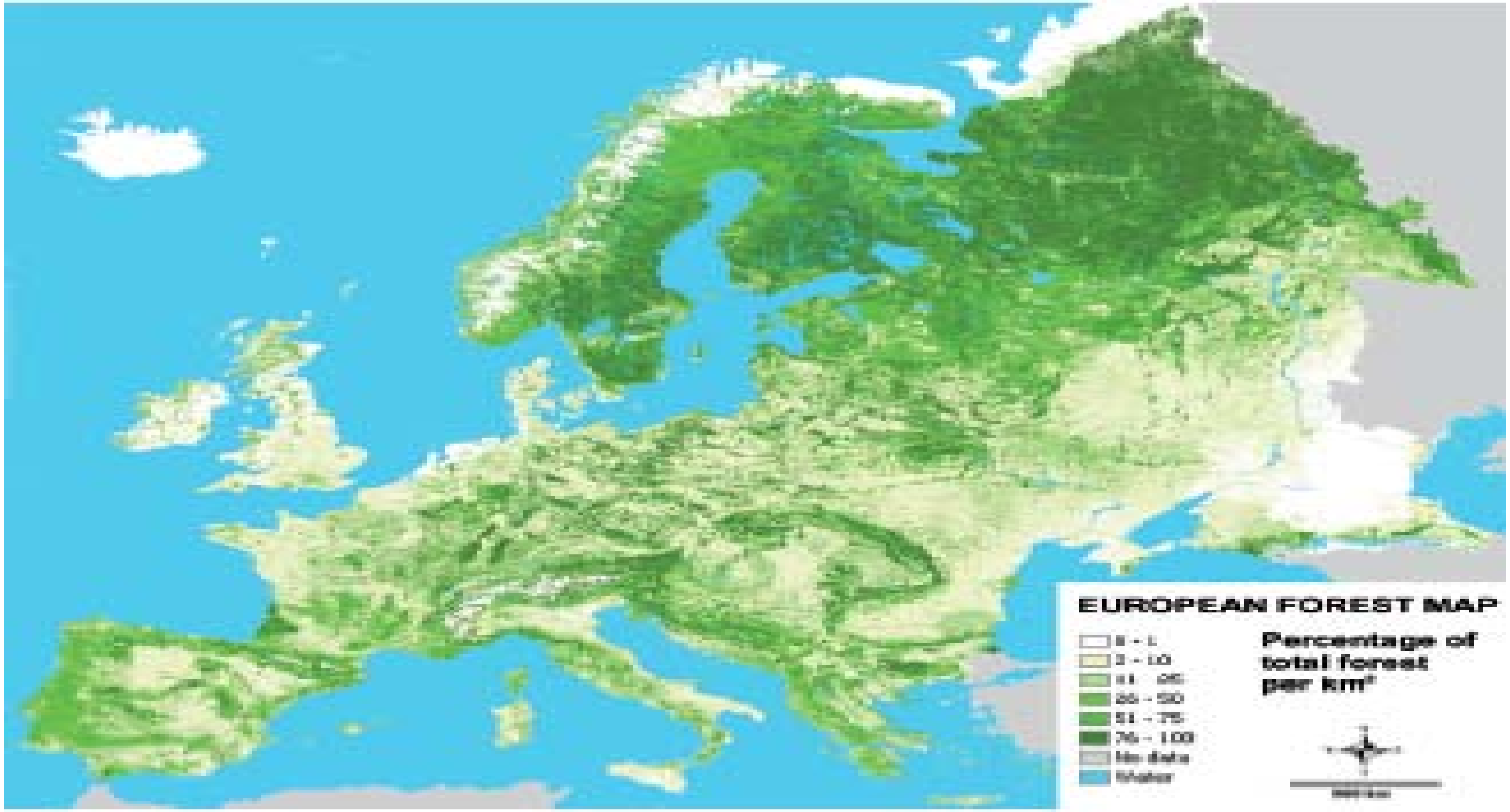
- In 2005 total forest plantation area reached 140 M ha (planted forests 271 M ha), out of which about 110 M ha for productive purposes
- AROUND 84 M ha ADDITIONAL SHOULD BE PLANTED UNTIL 2030
- Huge plantation investments are needed and the expansion is expected to be driven by Asia (China, Indonesia), Europe and Latin America (Brazil, Uruguay, Chile)

FOREST PLANTATIONS AREA FORESCAST (M ha) Source: FAO Forestry Department

Region	Acacia	Eucalyptus	Pinus	Other softwood	Other hardwood	Total
2005						
Africa	5.2	1.2	1.2	0.5	1.4	**9.4**
Asia	3.8	7.6	18.9	15.3	79.2	**124.8**
NCE Europe			26.4	36.0	12.1	**74.5**
S Europe				4.6	4.7	**9.3**
NC America			18.9	7.2	1.7	**27.8**
South America	0.2	4.5	5.1	0.3	0.9	**10.9**
Oceania		0.5	2.7	0.2	0.2	**3.6**
Total	**9.1**	**13.8**	**73.2**	**64.0**	**100.3**	***260.5***
2030, Scenario 1						
Africa	4.7	1.2	1.4	0.5	1.6	**9.4**
Asia	4.6	10.6	23.3	16.9	92.8	**148.3**
NCE Europe			28.8	38.3	12.5	**79.6**
S Europe				7.5	7.6	**15.0**
NC America			21.9	9.8	2.0	**33.7**
South America	0.2	5.2	6.0	0.3	1.0	**12.7**
Oceania		0.7	2.8	0.2	0.3	**3.9**
Total	**9.5**	**17.7**	**84.2**	**73.5**	**117.8**	***302.7***
2030, Scenarios 2 and 3						
Africa	4.2	1.2	1.6	0.5	1.8	**9.4**
Asia	5.4	13.6	27.6	18.5	106.4	**171.7**
NCE Europe			31.3	40.6	13.0	**84.9**
S Europe				10.3	10.4	**20.8**
NC America			25.0	12.5	2.4	**39.8**
South America	0.2	5.7	6.5	0.4	1.1	**13.9**
Oceania		0.8	2.9	0.2	0.3	**4.2**
Total	**9.9**	**21.4**	**94.9**	**83.0**	**135.5**	***344.6***

1.1.- SUPPORT FROM EU FOREST SUSTAINABILITY POLICY

FORESTRY IN THE EU



- Forests cover 145 million ha, (37,8%)
- Public forest represents 40% of forest area, private forests 60% with about 15 million owners.
- The average size of EU state-owned forest holdings is about 1 000 ha. Community forests:~ 300 ha
- Private forest holdings have an average size of 13 ha. (many < 5 ha)

EU FORESTRY STRATEGY

- Policy based in the sustainable forest management and the multifunctional role of forests based on three pillars: economic, social and environmental sustainability
- Main support by Rural Development Regulation 2007-2013 CR (EC) No 1698/2005 (Axis 2 : Improving the environment and the countryside)
- Main measures on Forestry land:
  - first afforestation
  - first establishment of agro-forestry systems,
  - Natura 2000 areas
  - forest-environment
  - restoring forestry potential and introducing prevention actions
  - support for non-productive investments

EU FOREST ACTION PLAN 2006

- EU is a net importer of these of wood-based raw materials
- Action Plan has four main objectives:
  - – improving long-term competitiveness
  - – improving and protecting the environment
  - – contributing to the quality of life
  - – fostering coordination and communication
- Promote the use of forest biomass for energy generation
- Facilitate EU compliance with the obligations on climate change

EU FOREST ACTION PLAN 2006. NATIONAL FOREST PLANS

- develop national afforestation guidelines and promote afforestation for environmental and protective objectives
- promote agroforestry systems and Natura 2000-forest measures
- promote schemes for forest owners to engage in voluntary environmental commitments
- promote investments to enhance forests ecological value
- support forest fire prevention measures
- support restoration of forests damaged by natural disasters and fire
- studies on forest fires,
- review protection strategies against biotic and abiotic agents

EU FOREST-BASED INDUSTRIES (1)

- Forest-based industries are the industries producing pulp, paper, paper packaging and the woodworking industries like sawmills and wood-based panels as well as specialised sectors such as cork and the printing industry.
- They have common denominators in their main raw materials: wood or recovered paper and wood.
- Production value of EUR 365 bn, and an added value of around EUR 120 bn

EU FOREST-BASED INDUSTRIES (2)

- 3 million jobs in 344 000 enterprises
- Generally competitive, having a very good technical and commercial performance. The pulp and paper, woodworking and printing sectors are world leaders in many areas.
- The EU is one of the biggest traders and consumers of forest products in the world, with a positive trade balance overall
- Increased investments in RTD and innovative use of technical and commercial know-how are necessary elements to further develop the competitiveness of these industries

EU FOREST BASED INDUSTRY. COMPETITIVENESS AND SUSTAINABILITY (3)

- Increase the use of recovered raw materials (wood and paper). Today, about half of the EU paper production is based on recovered paper, which means a growth of 25% since 1998
- Increase the paper recycling rate and improve the quality and recyclability of recovered paper. More efficient separate collection systems for used paper and wood products to be promoted by public authorities
- Particleboard and medium density fibreboard, can be made from recovered wood

EU FOREST BASED INDUSTRY. COMPETITIVENESS AND SUSTAINABILITY (4)

- The growing demand for renewable energy continues to increase competition for wood, especially in the wood panel and pulp sectors thereby leading to higher costs
- Paper mills are big energy consumers, but chemical pulp mills can be net energy producers
- In sawmills and wood panels there is also high-energy self-sufficiency for heat, though electricity often comes from external suppliers
- The EU FLEGT (Forest Law Enforcement, Governance and Trade) Action Plan addresses these concerns through supply and demand-side measures.

1.2. FINANCIAL RESOURCES AND INSTRUMENTS. (PRIVATE, EU, TIMBERLAND FUNDS)

FINANCIAL RESOURCES

- Main financing is coming from private investors
- Total amount of EU's financial resources allocated to the eight forestry measures including in the EU forestry policy for the period 2007-2013 is up to EUR 16 bn in total of which around EUR 8 bn will be made available from the EU Community budget
- EIB is providing an average of EUR 300 m p.a. loans during the last 10 years

NEW FINANCIAL INSTRUMENTS: TIMBERLAND FUNDS

- The Funds invest in a limited number of non-listed holding companies that own timberland and other eligible assets
- The objective is to seek current income and medium and long-term capital appreciation in the Shares of the Fund.
- The Funds will provide investors with an opportunity to invest in a widely diversified timberland portfolio while reducing investment risk
- EIB, acting as a cornerstone investor, supports this new private equity asset class in Europe to complement and extend its lending to the forestry sector

2. SUSTAINABLE STANDARDS FOR NEW PLANTATIONS

ENVIRONMENTAL & SUSTAINABILITY ANALYSIS (1)

- Conversion: The project to be financed shall not involve the conversion of natural forests to plantations
- Environmental Impact Assessment: should be considered to projects that include land use changes
- Acceptable forest certification shall be considered
- GMO policy: The use of GMOs is not accepted

ENVIRONMENTAL & SUSTAINABILITY ANALYSIS (2)

- Plantation management planning ("mosaic plantation"): The plantation outlay shall draw on mosaic structures with planted areas, natural vegetation, wildlife corridors, buffer zones
- Biodiversity Conservation: A share of the project area shall be set aside for nature conservation purposes, and/or to protect soil and water resources
- Assisted Natural Regeneration to be considered

MOSAIC PLANTATION

THE EIB PLANTS

EIB's OBJECTIVES, EXCLUDED AND RESTRICTED SECTOR LIST FOR FORESTS INVESTMENTS

- **EIB OBJECTIVES**
  - Environment tackling climate change and natural resources management
  - Social and economic cohesion
  - Consolidation to larger forestry property units in EU
- **EXCLUDED SECTORS**
  - Conversion of natural forest to plantation
  - Commercial logging on primary moist forest
- **RESTRICTED SECTORS**
  - Sectors considered to carry significant reputational risk as Oil palm tree plantations

3.-FORESTRY CARBON MARKETS

FORESTRY CARBON MARKETS

- Forests and forest-based industries have a strategic role in climate change mitigation
- Forest provide recognized Certified Emissions Reductions (CERS) in the CDM and JI United Nations Framework Convention on Climate Change mechanisms, although they are difficult to obtain
- Forest provide alternatively Voluntary Emissions Certificates
- However LULUCF activities and CERS are not included in the EU European Trading Scheme

EIB's CLIMATE CHANGE INITIATIVES (1)

- Mainstreaming Climate Change issues in all investments
- Compliance with EU environmental principles and standards enshrined in the European Principles for the Environment (EPE)
- The EIB can finance up to 75% of costs of projects and offer other attractive financing features

EIB's CLIMATE CHANGE INITIATIVES (2)

- EUR 3bn Facility for Energy Sustainability and Security of Supply – for projects in partner countries
- Global Authorisation Mechanism, for small and medium-scale projects outside the EU
- Studies on Climate Change
- Carbon Funds in partenariat with other IFI
- Climate change technical assistance facility

CONCLUSIONS

- There is a substantial work to be done
- Forest and forest-based industries contribute extensively to
  - Economic development
  - Biodiversity enhancement
  - Soil and water protection
  - Climate change mitigation