Global Forest Products Market and Resource Trends

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Contents

Major info sources

- UNECE/FAO TIMBER database on forest products
- FAOSTAT database on forest products
- UNECE/FAO Temperate & Boreal Forest Resources Assessment
- FAO *Global Forest Resources Assessment*
- UNECE Timber Committee market forecasts
- UNECE/FAO *Timber Bulletin* “Forest products annual market review, 2003-2004”
- *Global Forest Products Model*, by Buongiorno, et al.
- UNECE/FAO *European Forest Sector Outlook Study*
- FAO *State of the World’s Forests, 2005*

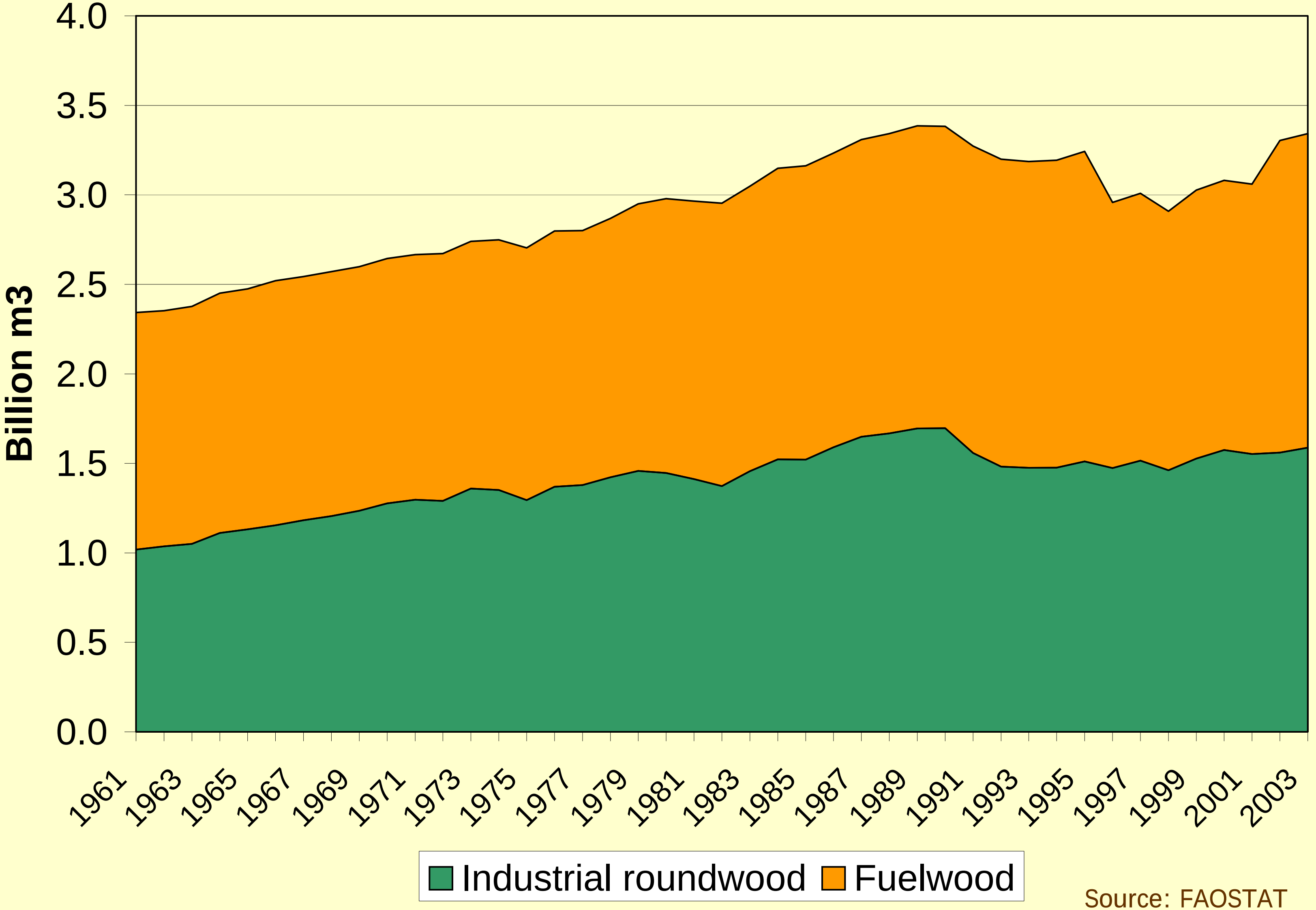
I. Forest products markets

Sectoral analysis: Logs

UNECE/FAO definitions:

- “Roundwood” is industrial roundwood + fuelwood
- “Industrial roundwood” as sawlogs, veneer logs, pulp logs and other industrial roundwood

World production of roundwood, 1961-2003

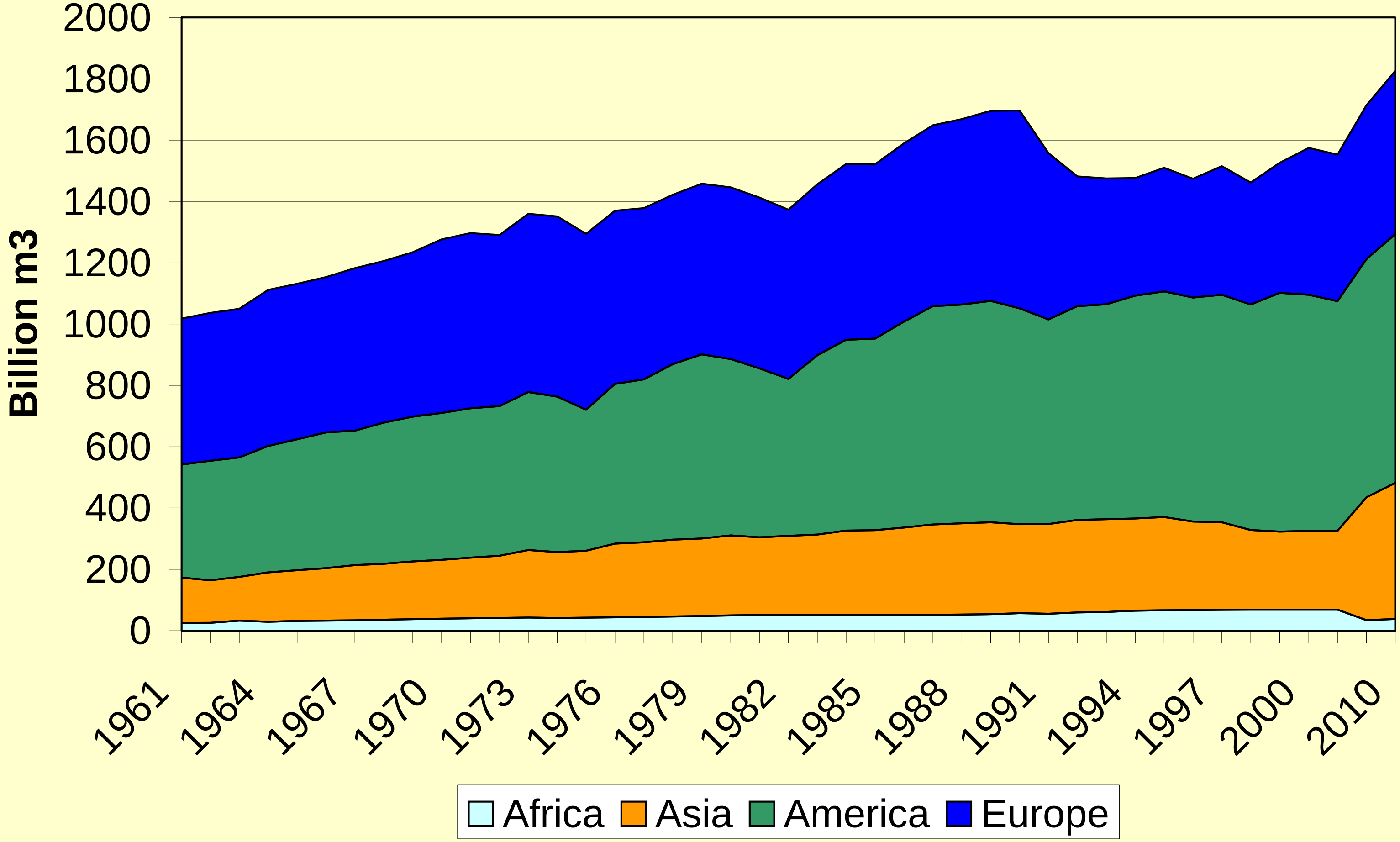


Source: FAOSTAT

World roundwood utilization as fuel

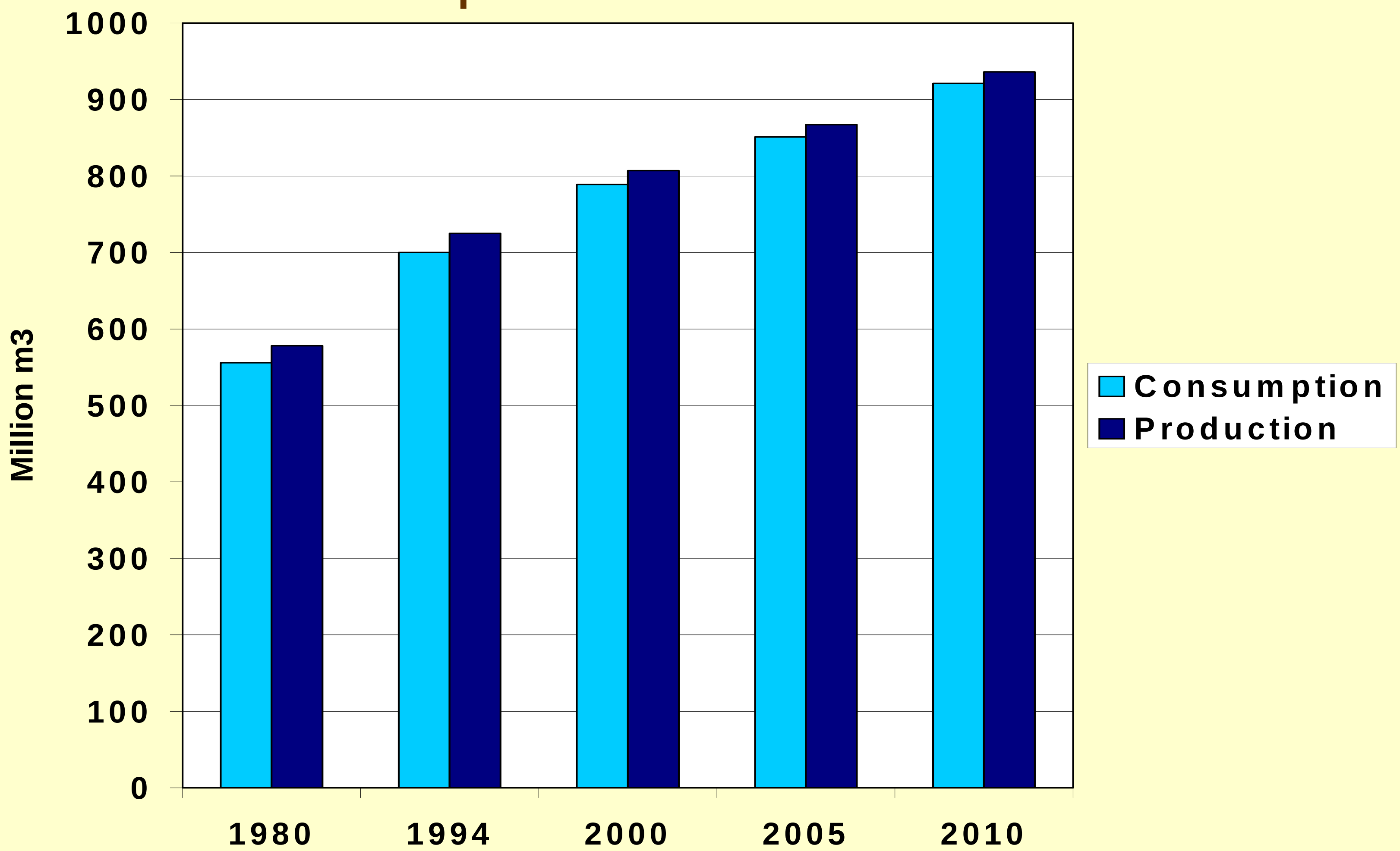
- Over half used as fuel
  - Domestic heating
  - Cooking
- Mostly in developing countries
- Low value
- Modern wood energy
  - Small international trade
  - Growing market
  - Policy push in Europe

Regional production of industrial roundwood, 1961-2010



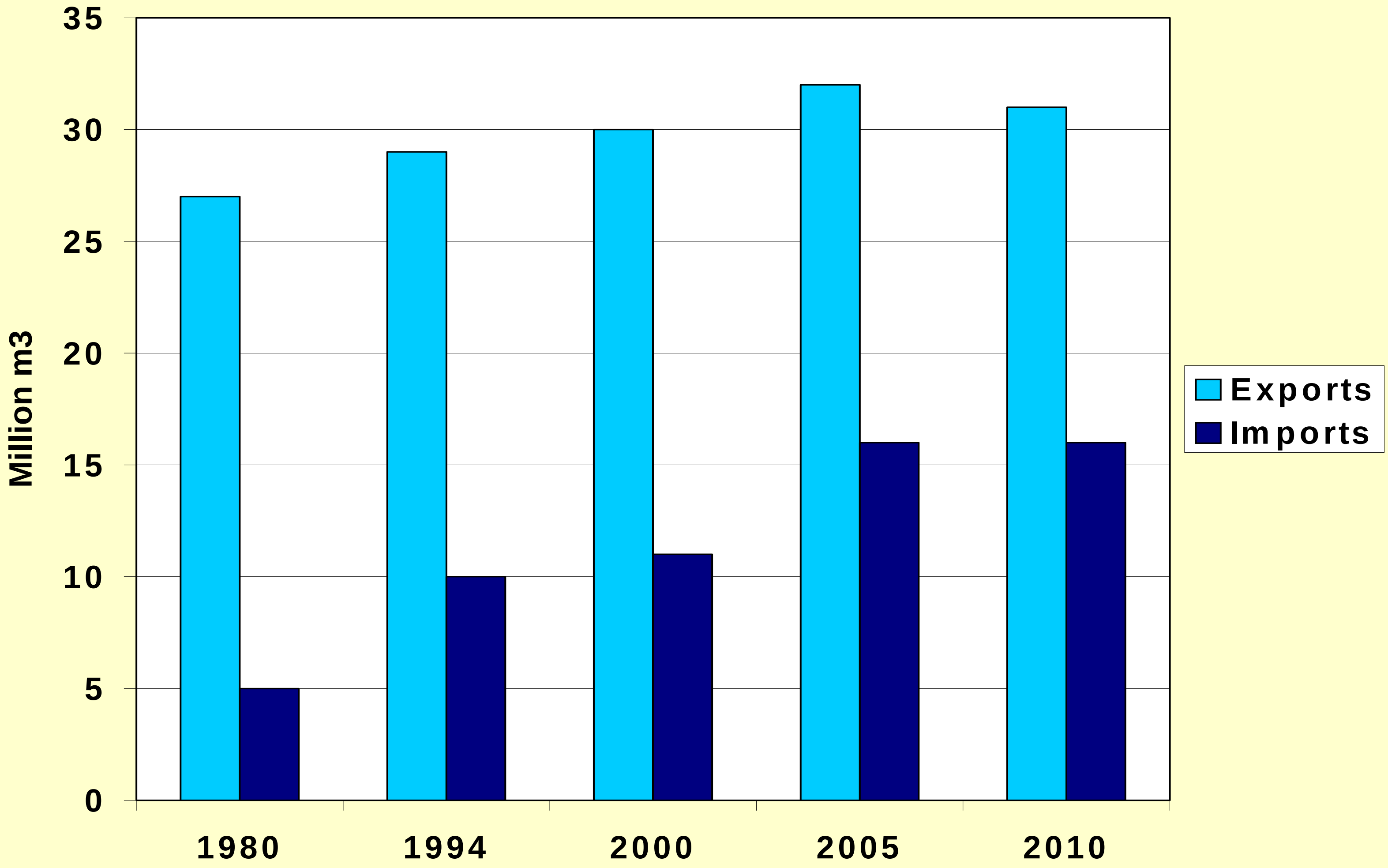
Source: FAOSTAT and FAO Global Forest Products Outlook Study

American industrial roundwood consumption and production to 2010



Source: *Global Forest Products Model, 2003*

American industrial roundwood trade to 2010



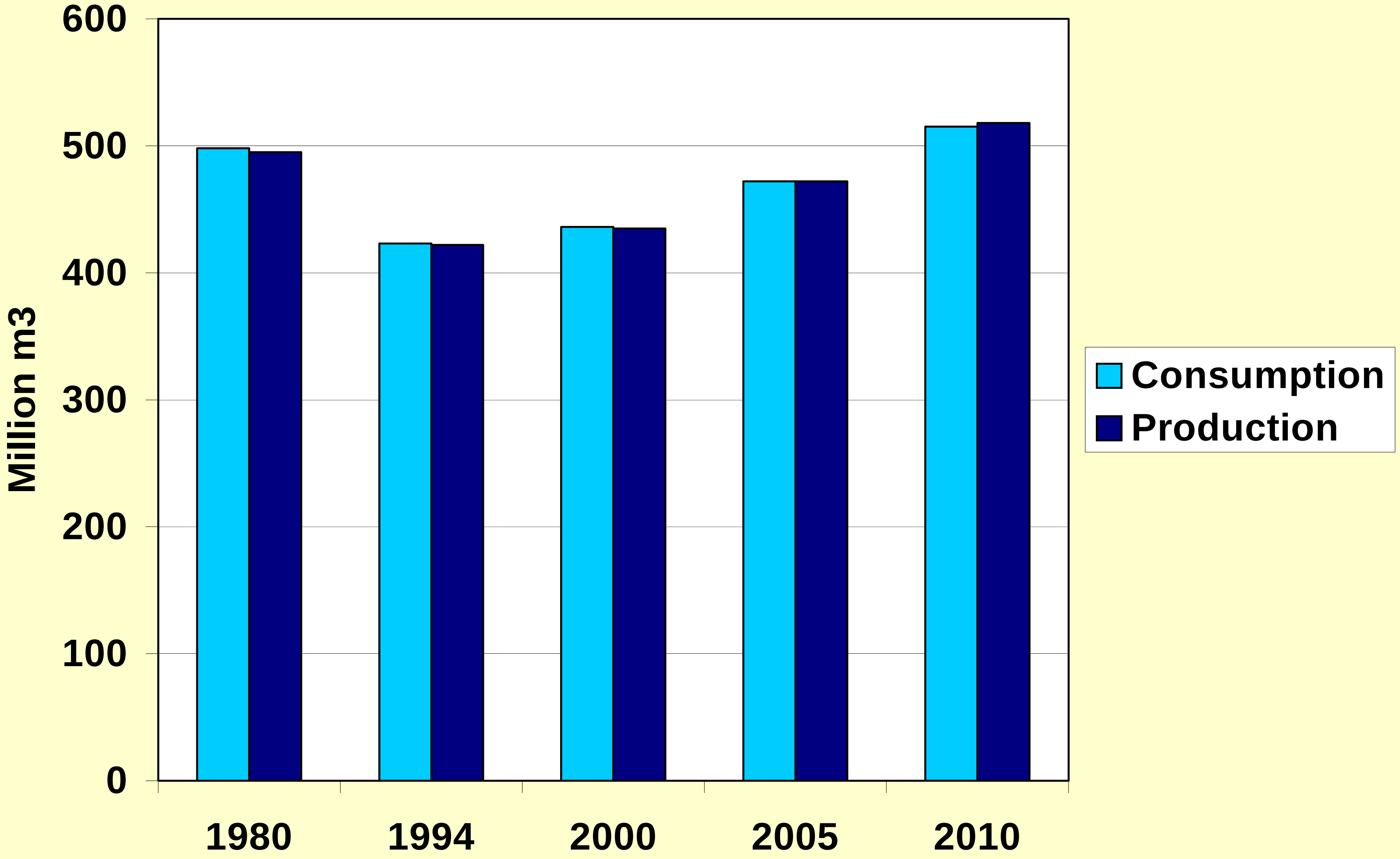
Source: *Global Forest Products Model, 2003*

Factors affecting models *and markets*

- Gross domestic product (GDP)
- Population
- Costs and prices (labor, raw material, etc.)
- Technological change
- Government policies
- Socio-economic trends

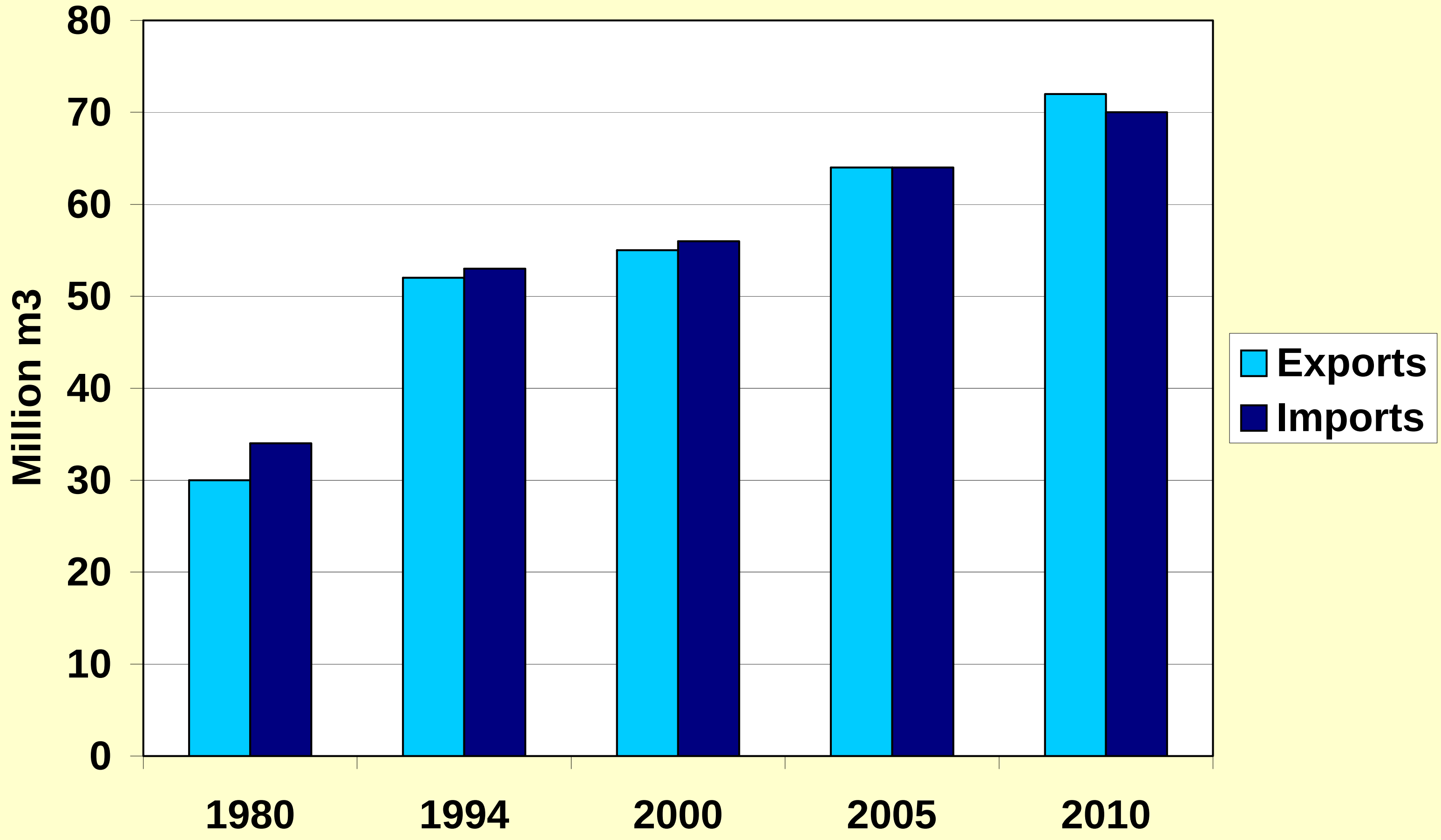
Source: FAO *Global Forest Products Consumption, Production, Trade and Prices: Global Forest Products Model Projections to 2010.* By Zhu, S; Tomberlin, D; Buongiorno, J., 1998

European industrial roundwood consumption and production to 2010



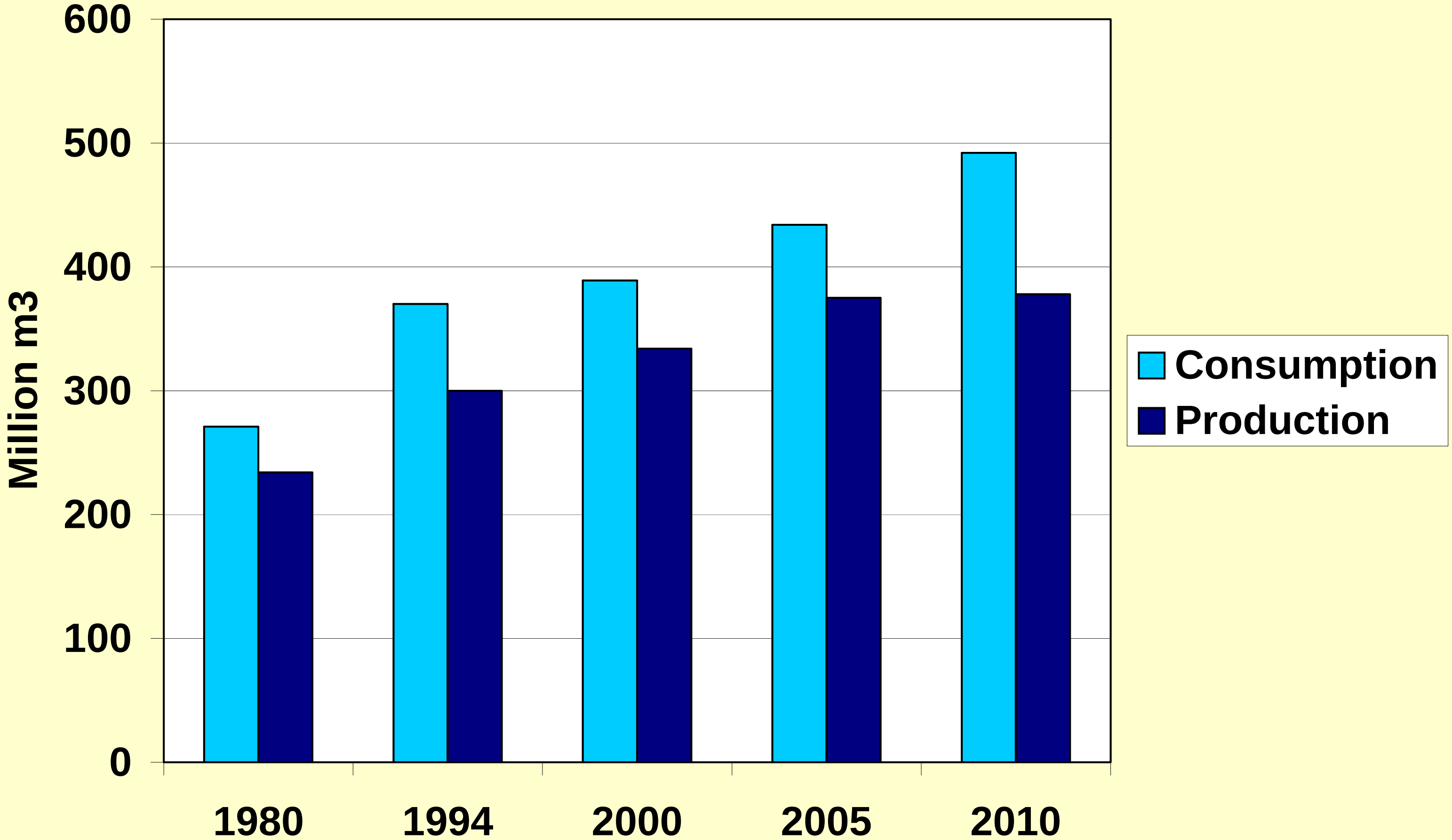
Source: *Global Forest Products Model, 2003*

European industrial roundwood trade to 2010



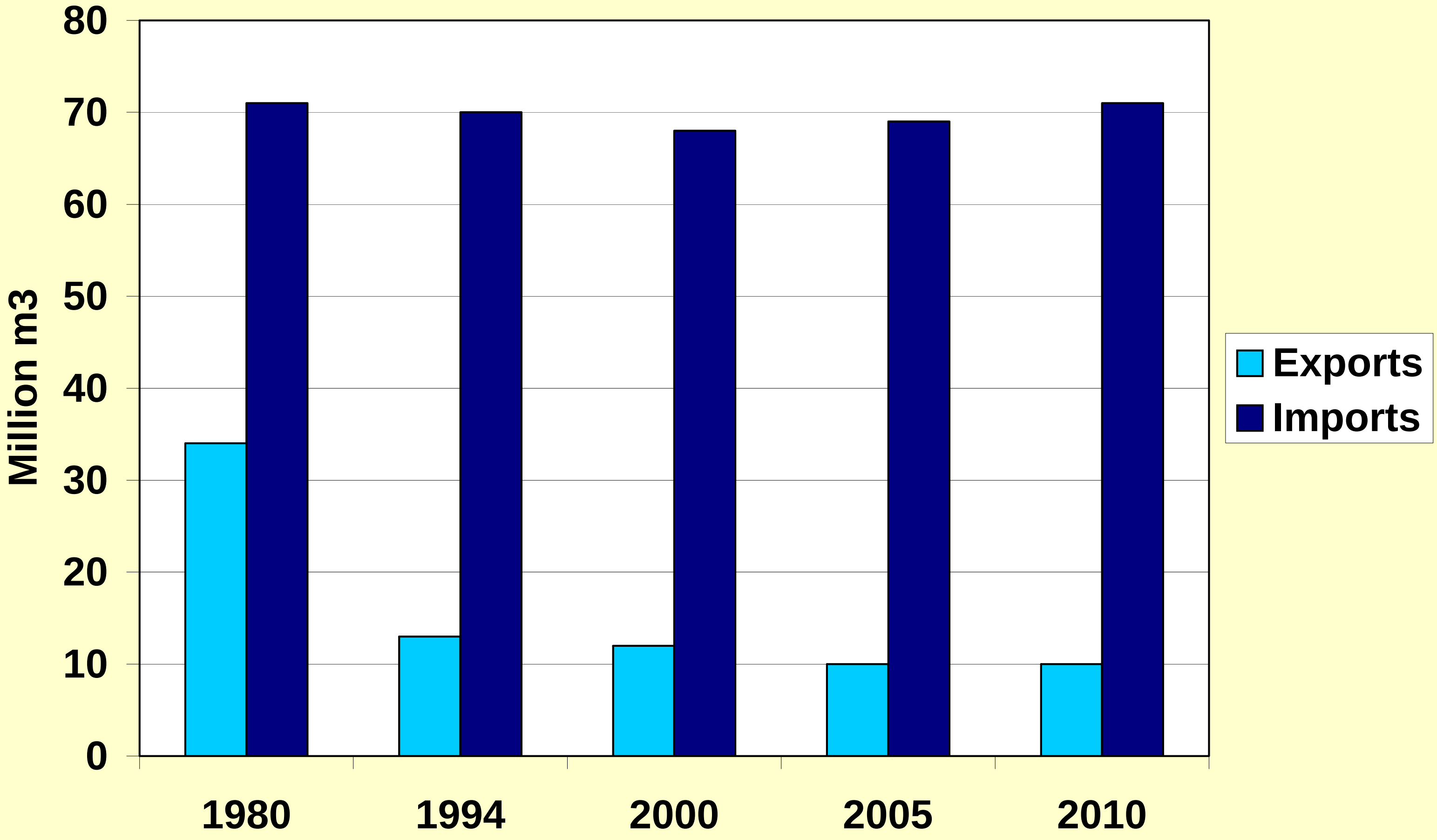
Source: *Global Forest Products Model, 2003*

Asian industrial roundwood consumption & production to 2010



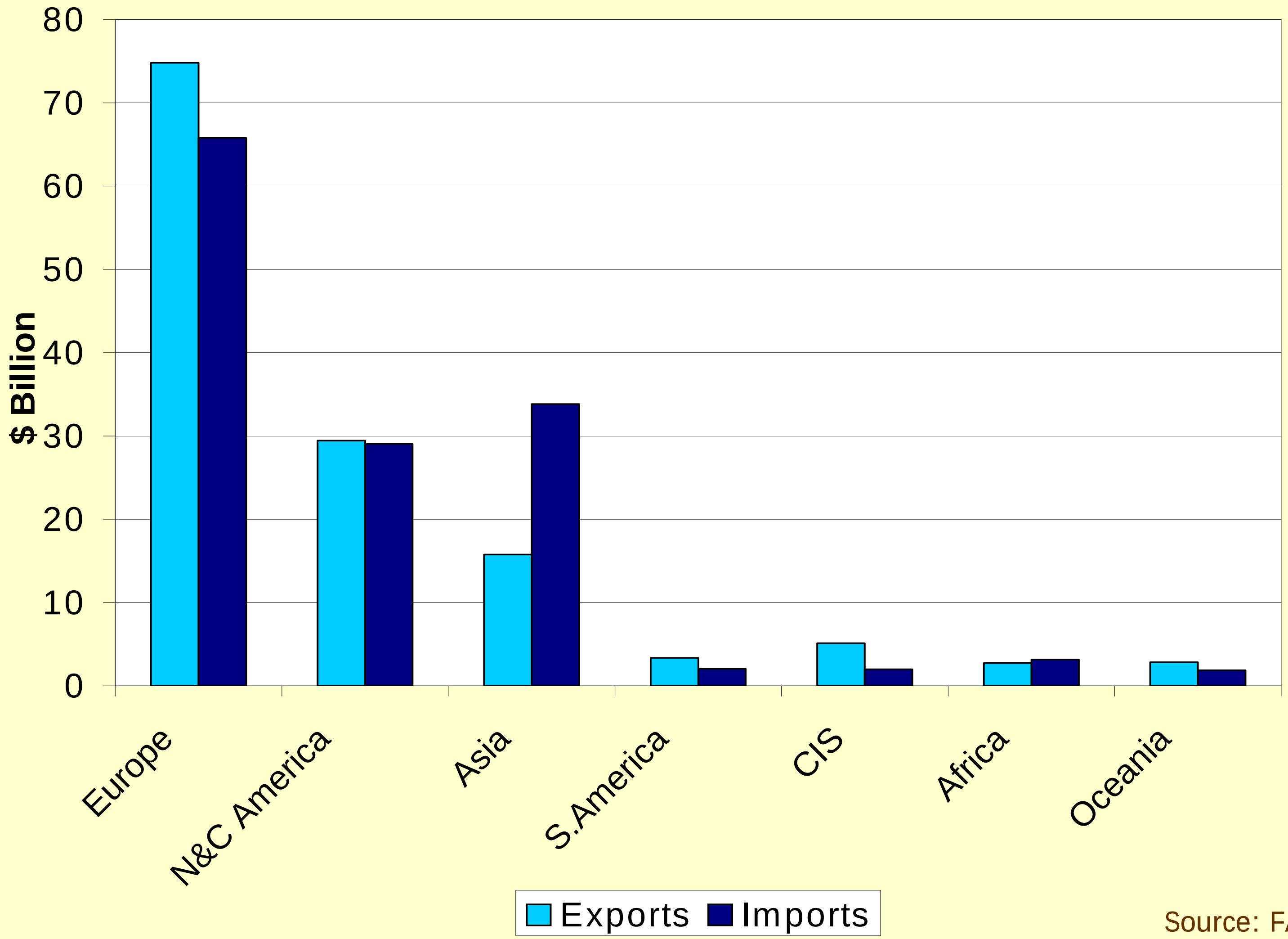
Source: *Global Forest Products Model, 2003*

Asian industrial roundwood trade to 2010



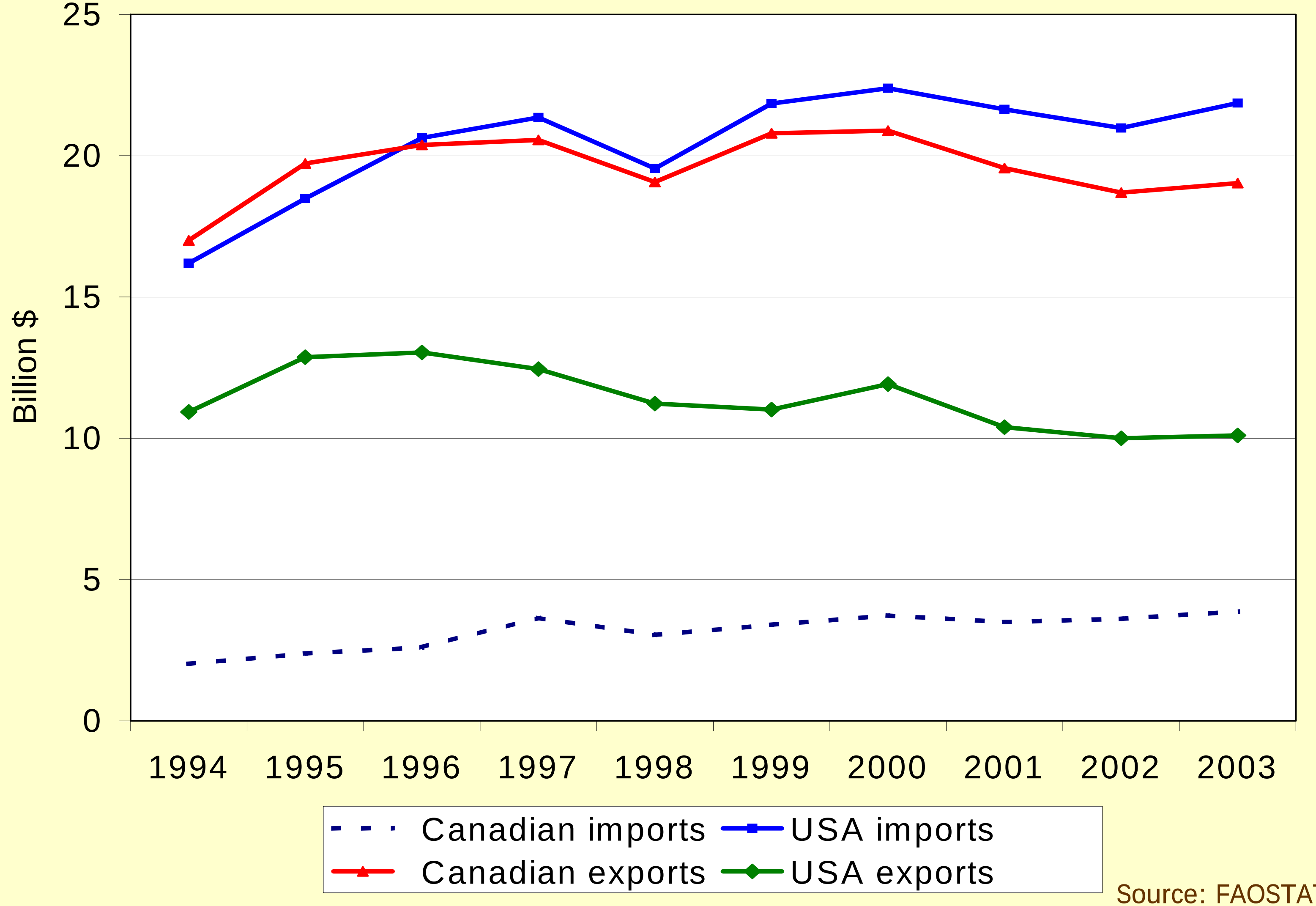
Source: *Global Forest Products Model, 2003*

Regional trade, all primary forest products, 2003



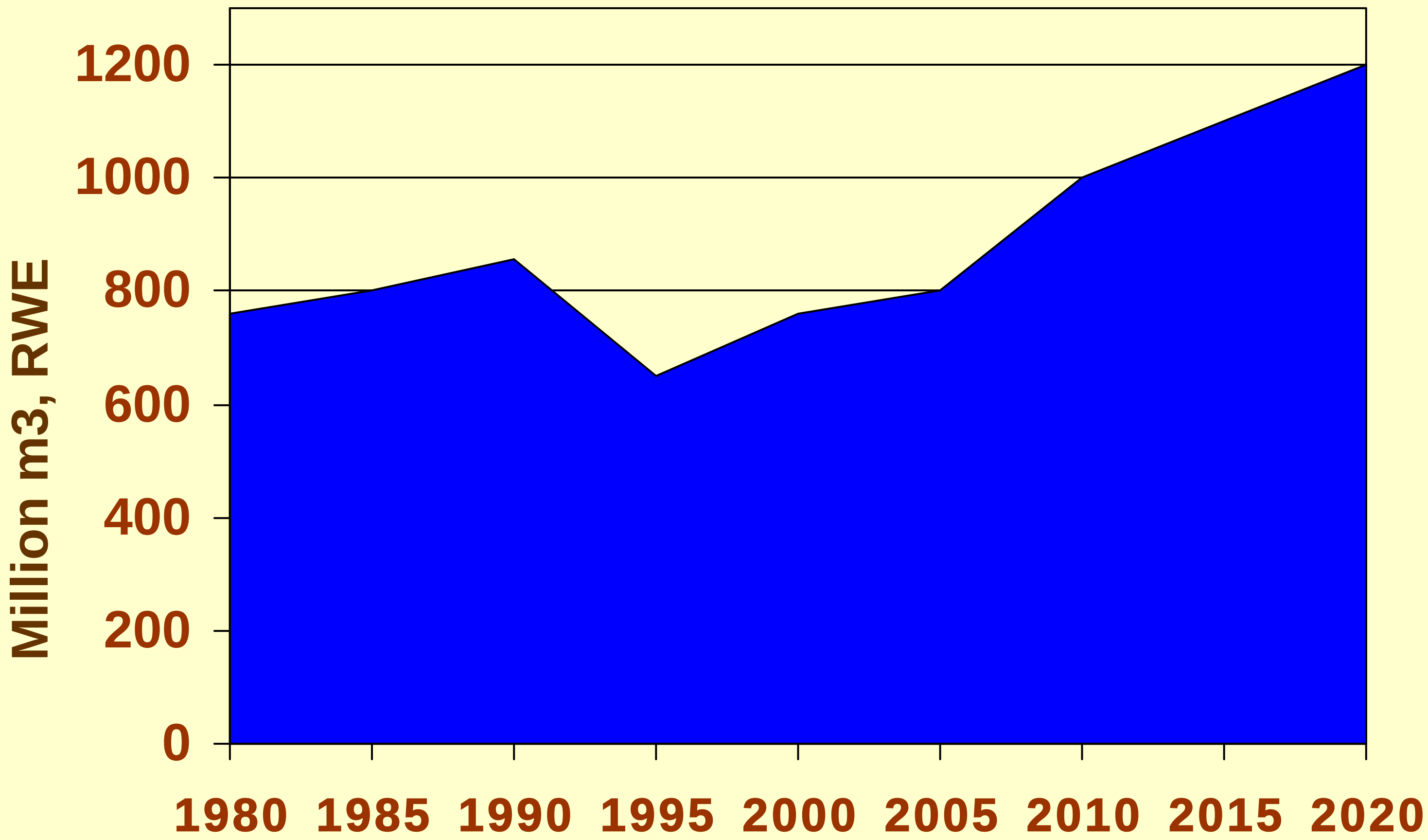
Source: FAOSTAT

North American trade, all primary forest products, 1994-2003



Source: FAOSTAT

European primary wood products demand, 1980-2020



RWE=RoundWood Equivalent.
Source: European Forest Sector Outlook Study, 2005.

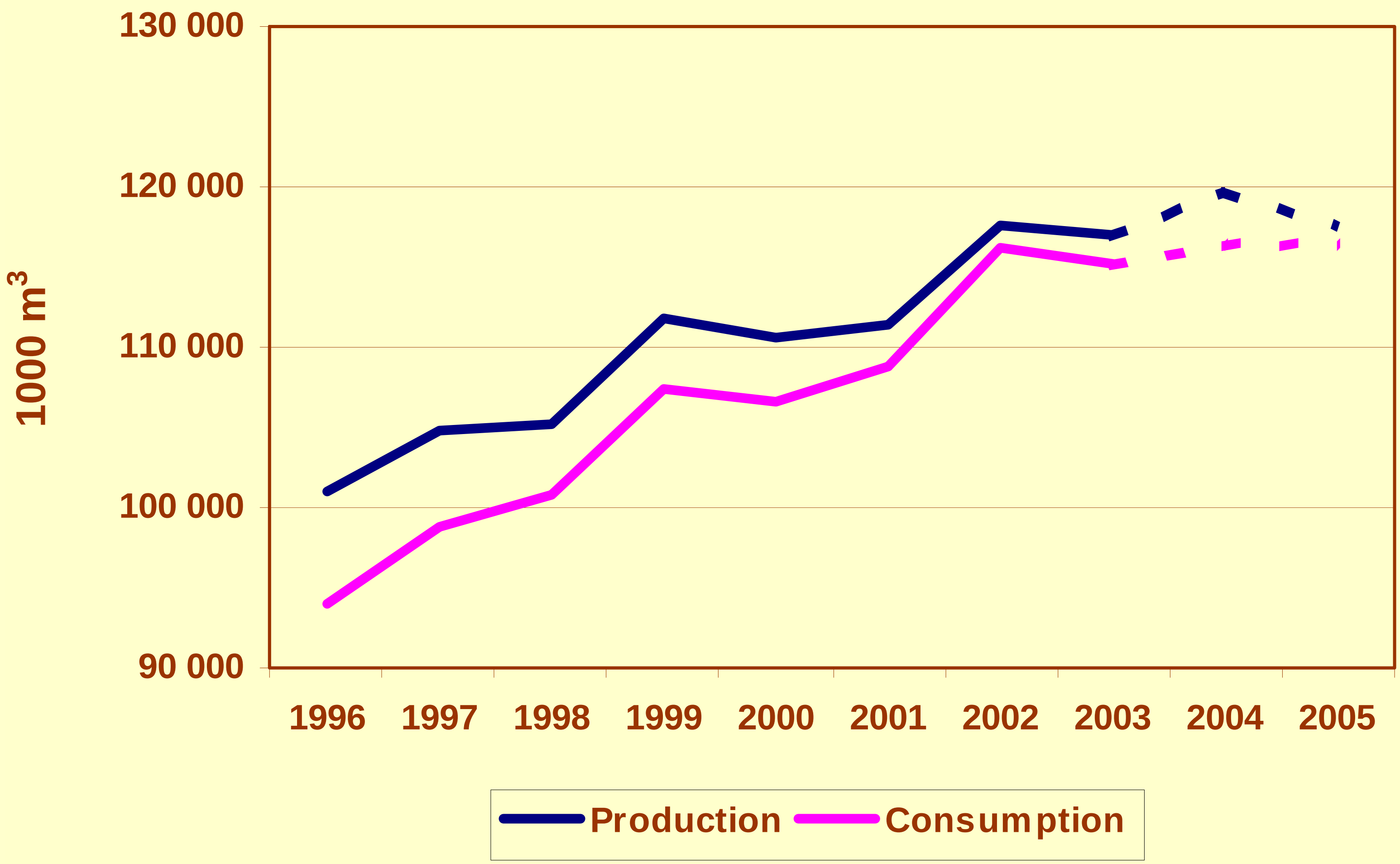
Major influences on current European forest sector

- Expanding markets, but resources outgrowing markets
- Intensifying trade
- Recovery from transition to market economies
- Non-wood forest products increasing demand, value
- Renewable energy policy of EU and member countries
- Globalization of forest products trade
- Innovation of products and processing
- Recycling of paper, use of byproducts

Source: UNECE/FAO *European Forest Sector Outlook Study*, 2005

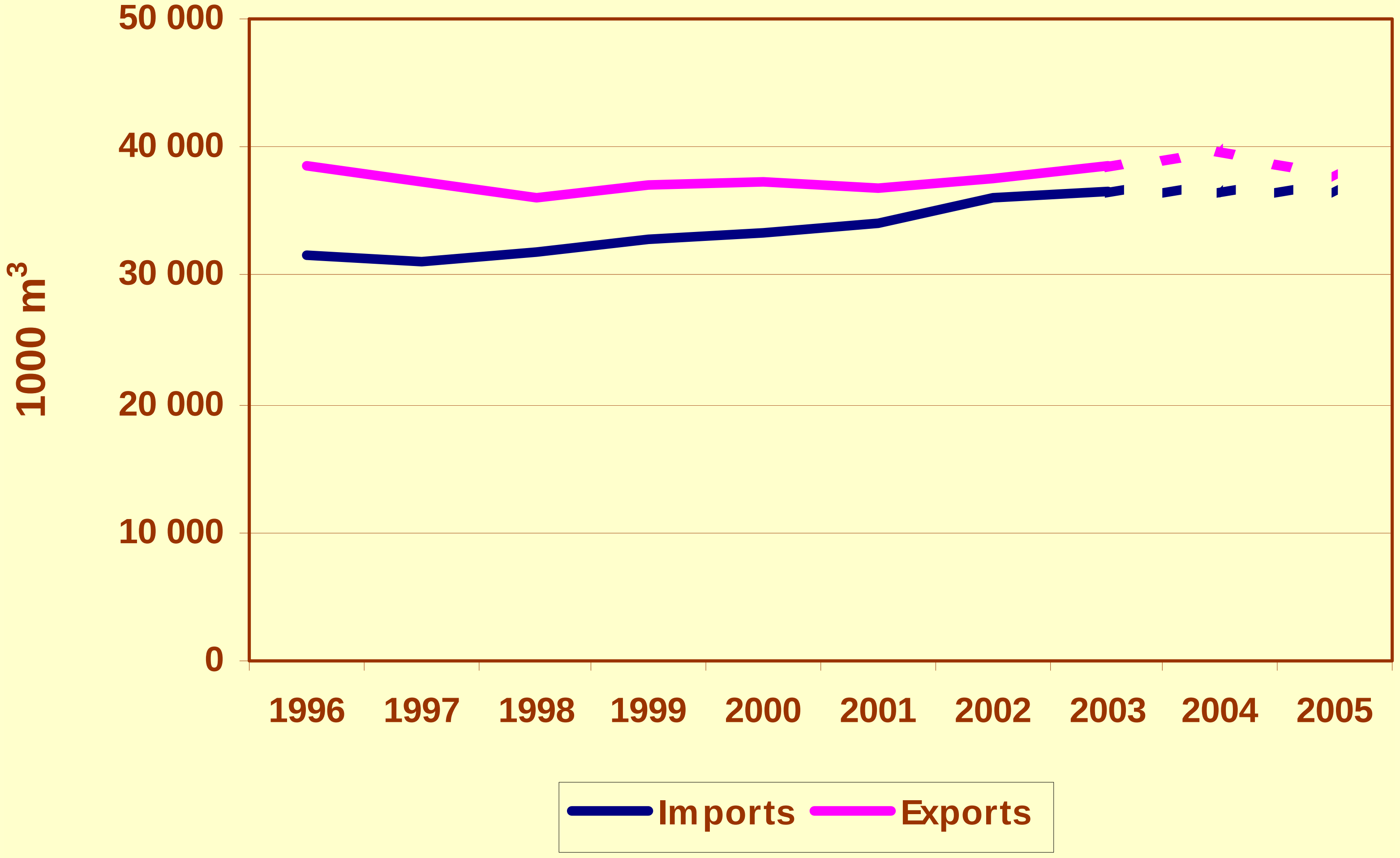
Sectoral analysis: Lumber

N. American softwood lumber market, 1996-2005



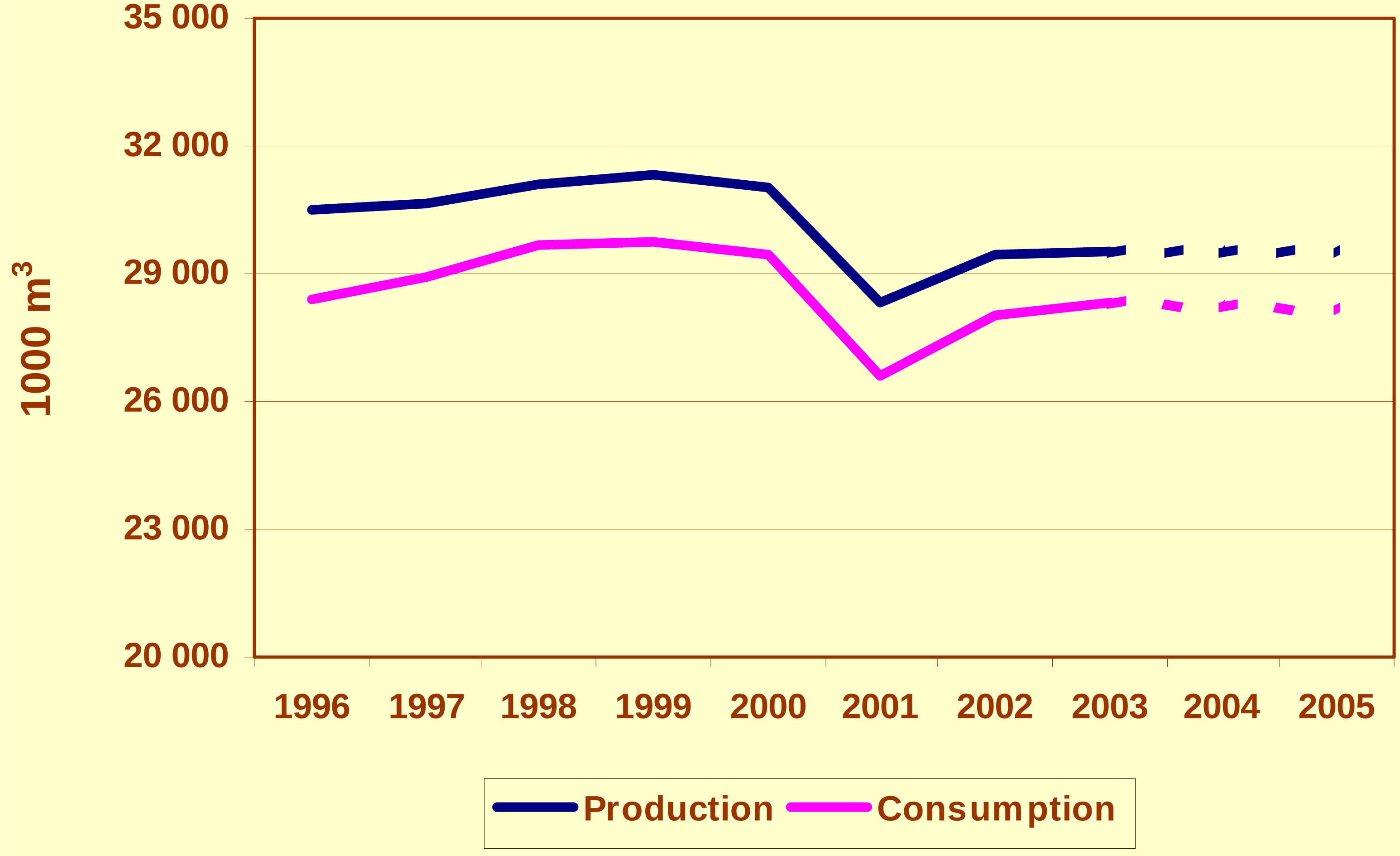
Source: UNECE Timber Committee forecasts, 10.2004

N. American softwood lumber trade, 1996-2005



Source: UNECE Timber Committee forecasts, 10.2004

N. American hardwood lumber market, 1996-2005



Source: UNECE Timber Committee forecasts, 10.2004

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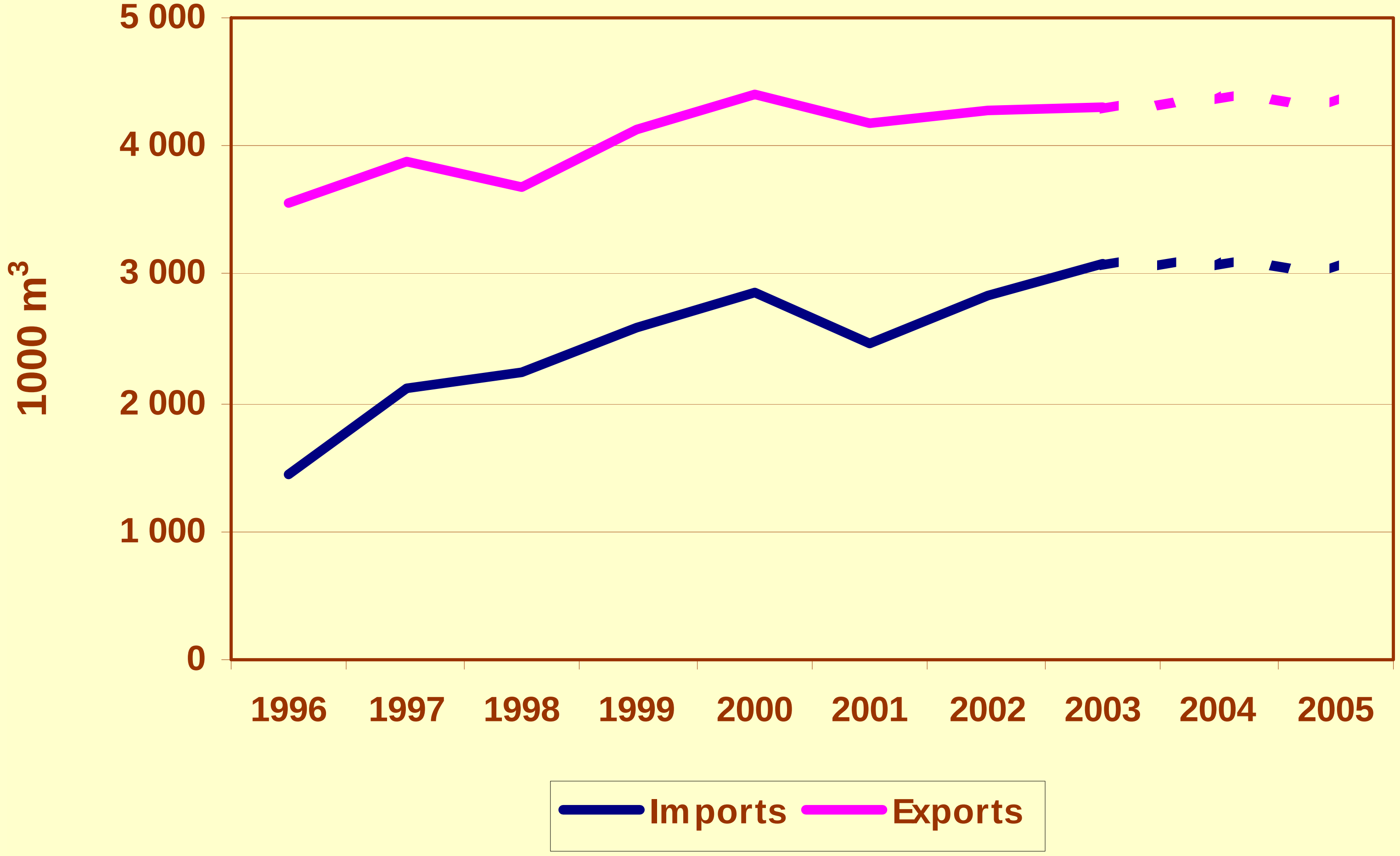
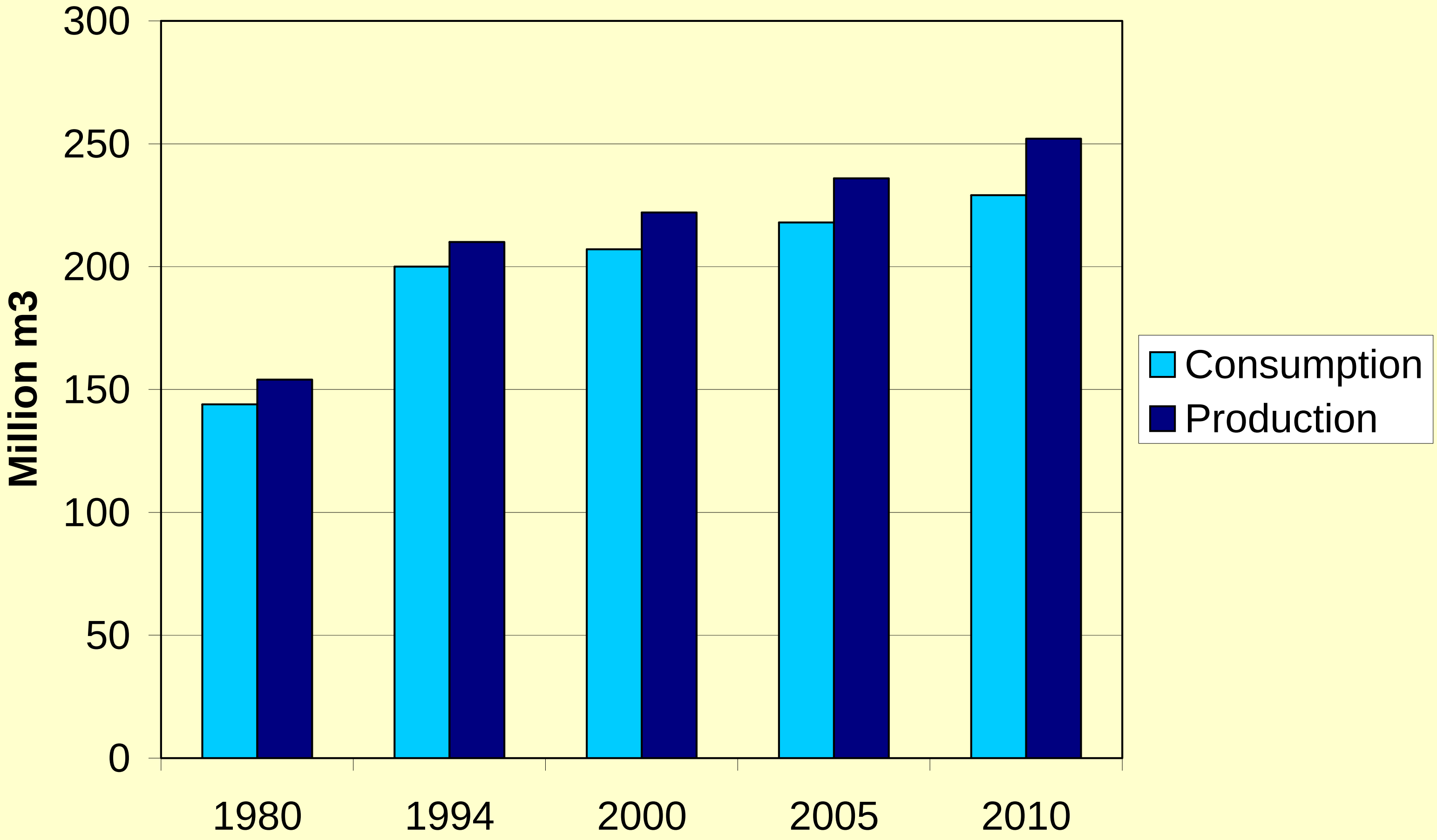


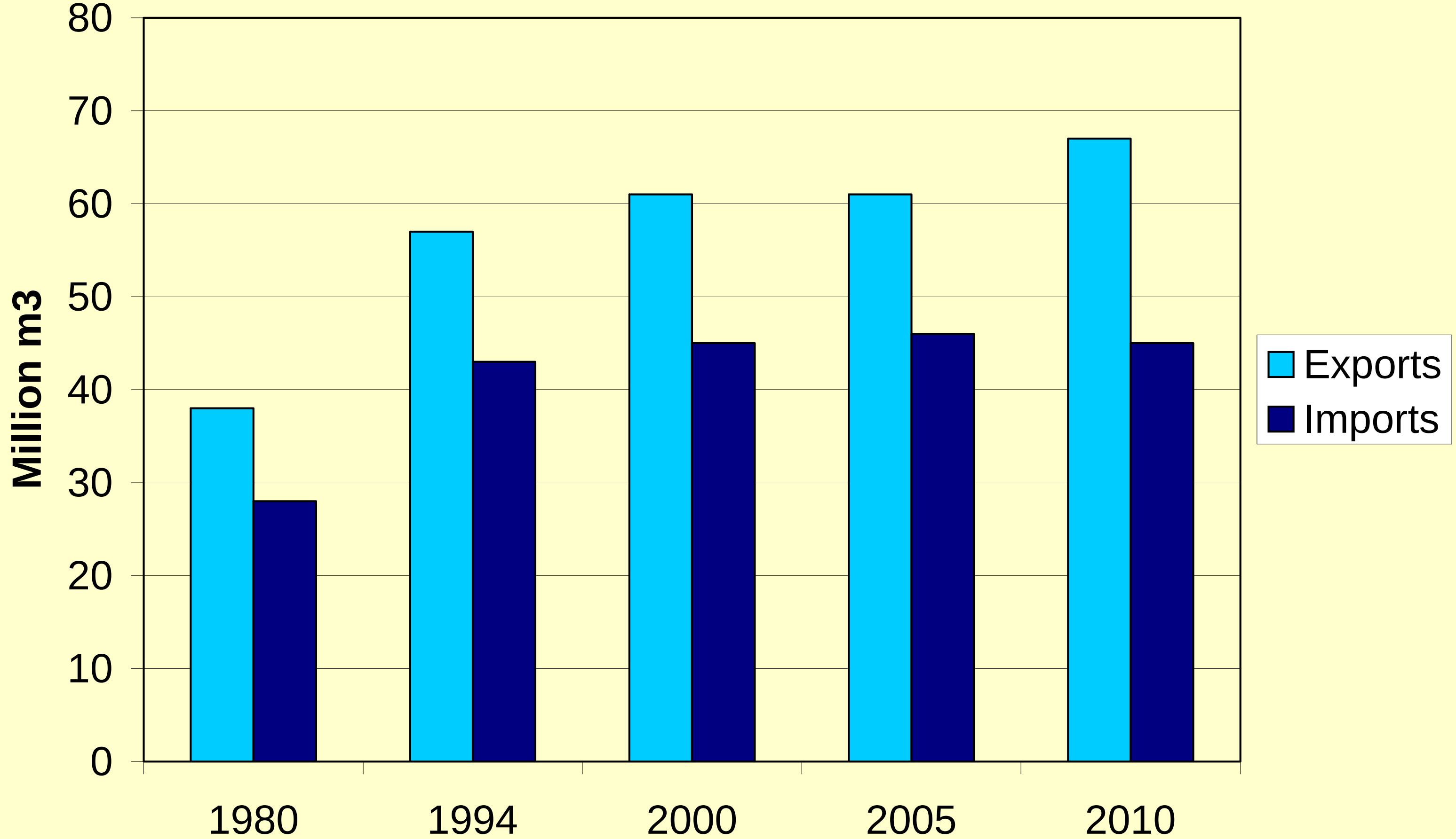
Source: UNECE Timber Committee forecasts, 10.2004

American lumber consumption & production to 2010



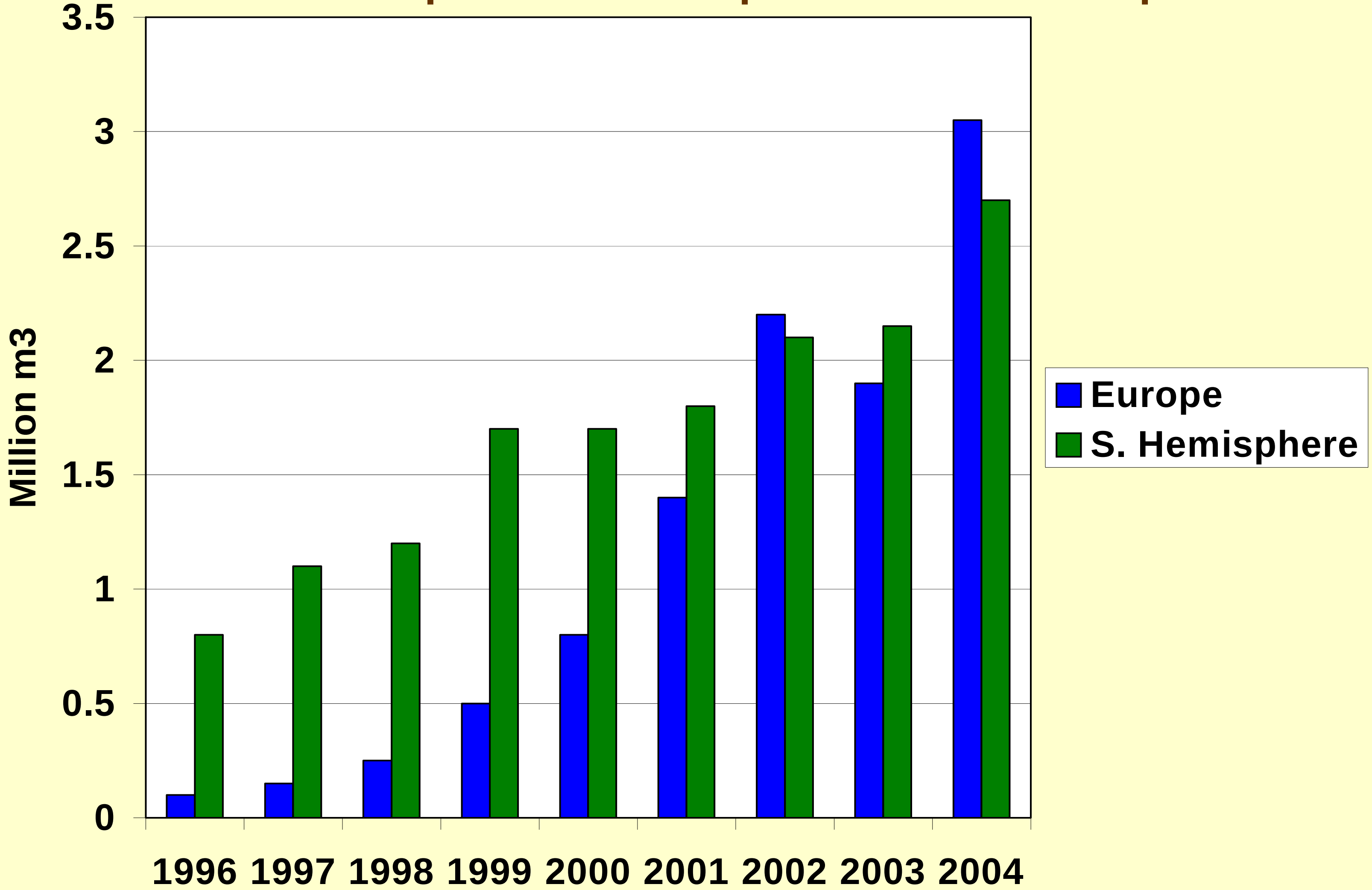
Source: *Global Forest Products Model, 2003*

American lumber trade to 2010



Source: *Global Forest Products Model, 2003*

US lumber imports: Europe & S. Hemisphere



Sources: USDA-Foreign Ag. Svc. and *Wood Markets Monthly*, 2005

US lumber imports: Europe & S. Hemisphere

- Excludes Canadian imports
  - 98% of US imports in ’96, but 87% 2004
  - Canadian-sourced imports up 8% 2004
- Aided by Softwood Lumber Agreement duties
- Imports of dimension softwood, some EWPs
- European-sourced imports
  - Increased 52% in 2004
  - Despite 45% rise in euro value vs. $
  - “Semi-natural forests” vs. plantation

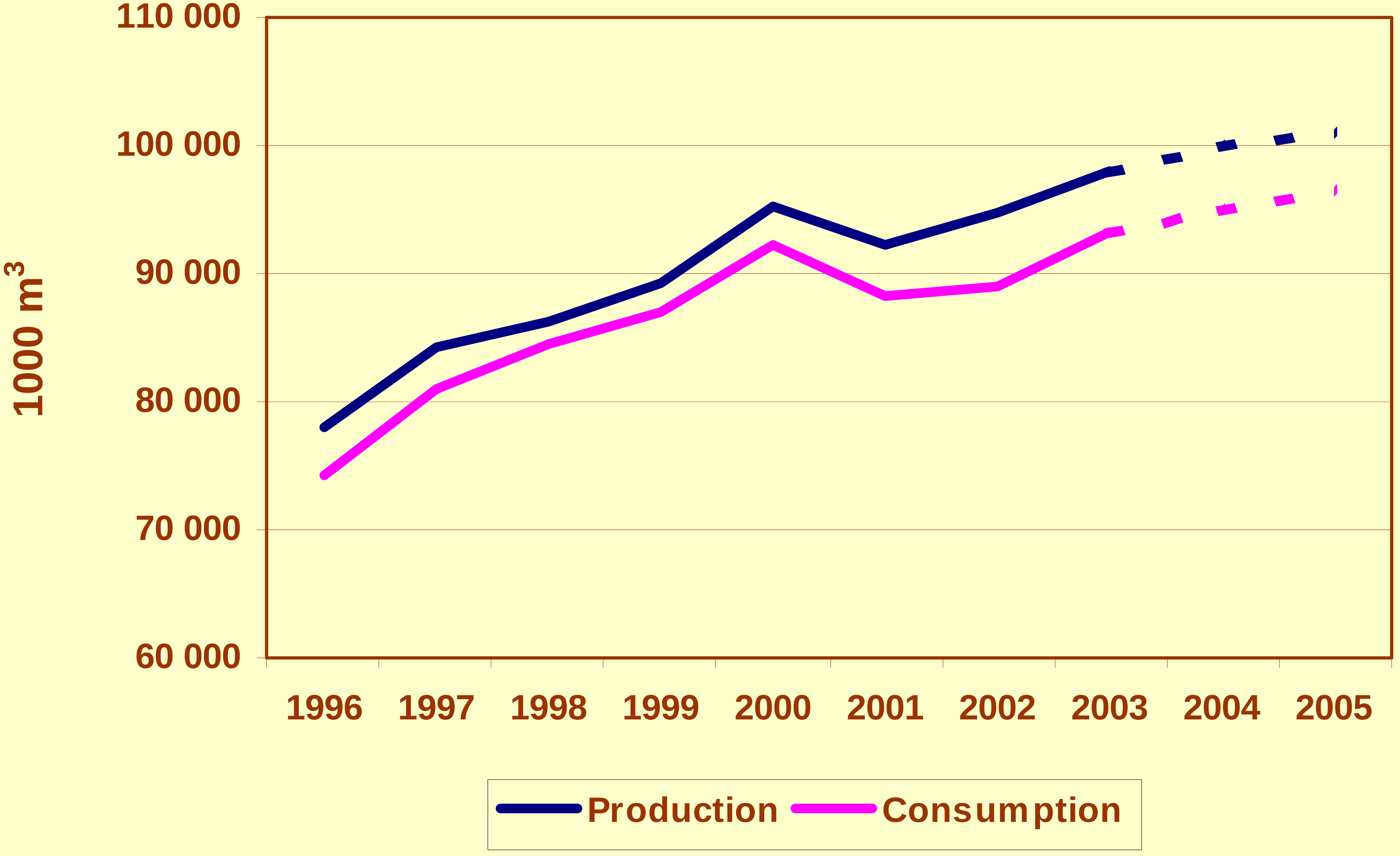
Sources: USDA-Foreign Ag. Svc. and *Wood Markets Monthly*, 2005

US lumber imports: Europe & S. Hemisphere

- Northern hemisphere sources in 2004
  1. Germany (up 73%)
  2. Austria (up 75%)
  3. Sweden (down 2%)
  4. Czech Rep., Lithuania, Russia, Finland, Estonia
- Southern hemisphere sources in 2004
  1. Brazil (up 37%)
  2. Chile (up 35%)
  3. New Zealand (down 3%)
  4. Argentina, Mexico, other

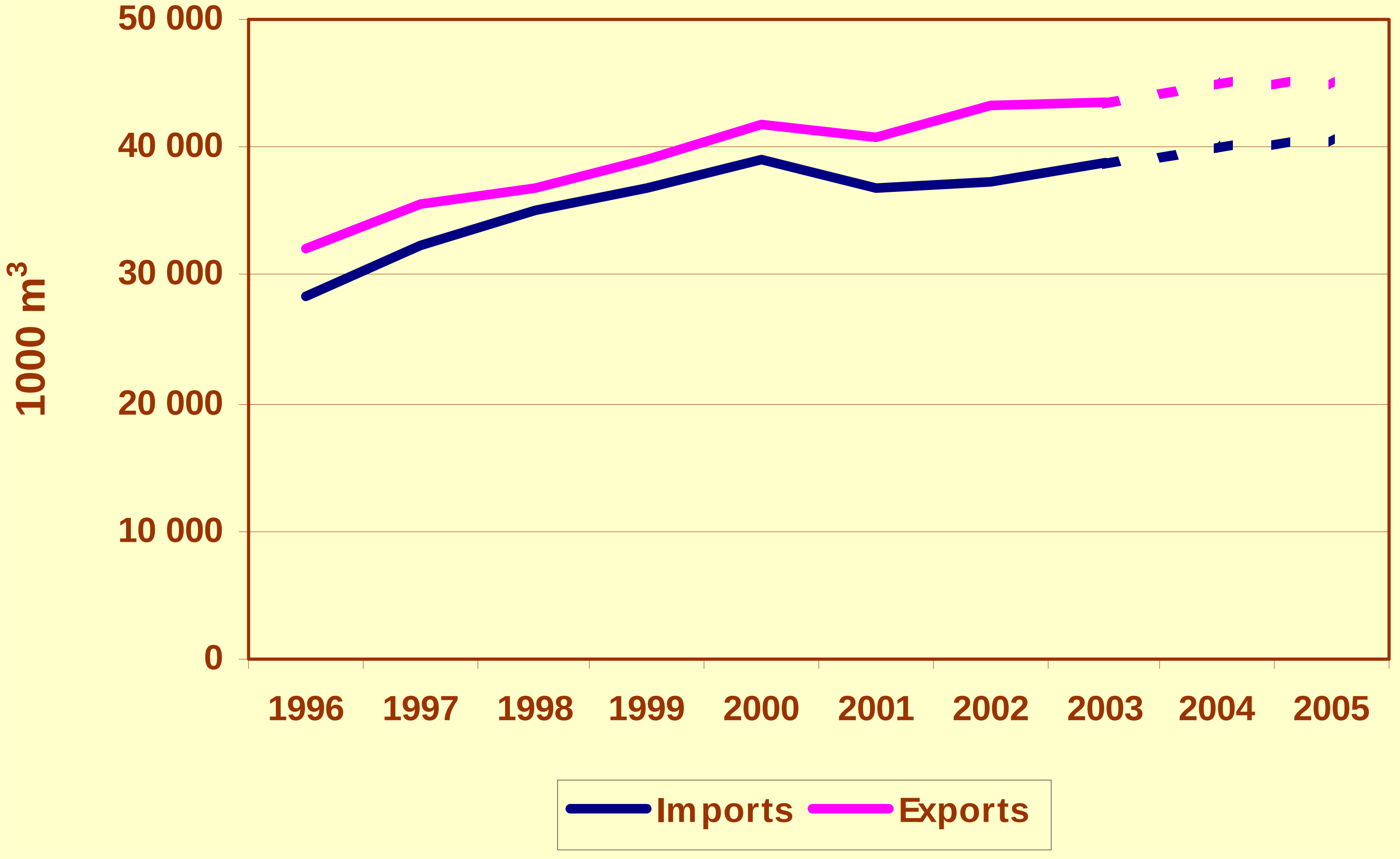
Sources: USDA-Foreign Ag. Svc. and *Wood Markets Monthly*, 2005

European softwood lumber market, 1996-2005



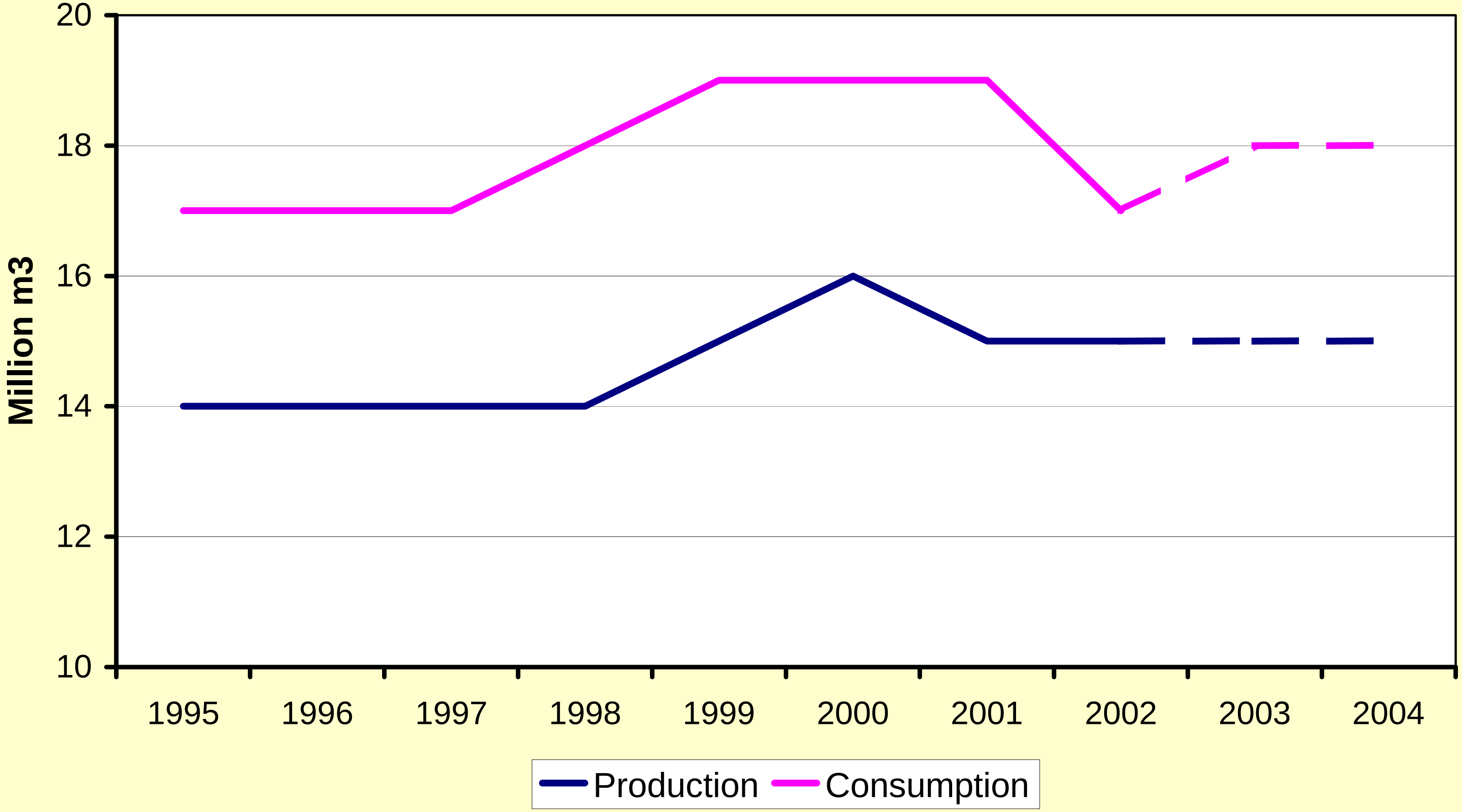
Source: UNECE Timber Committee forecasts, 10.2004

European softwood lumber trade, 1996-2005



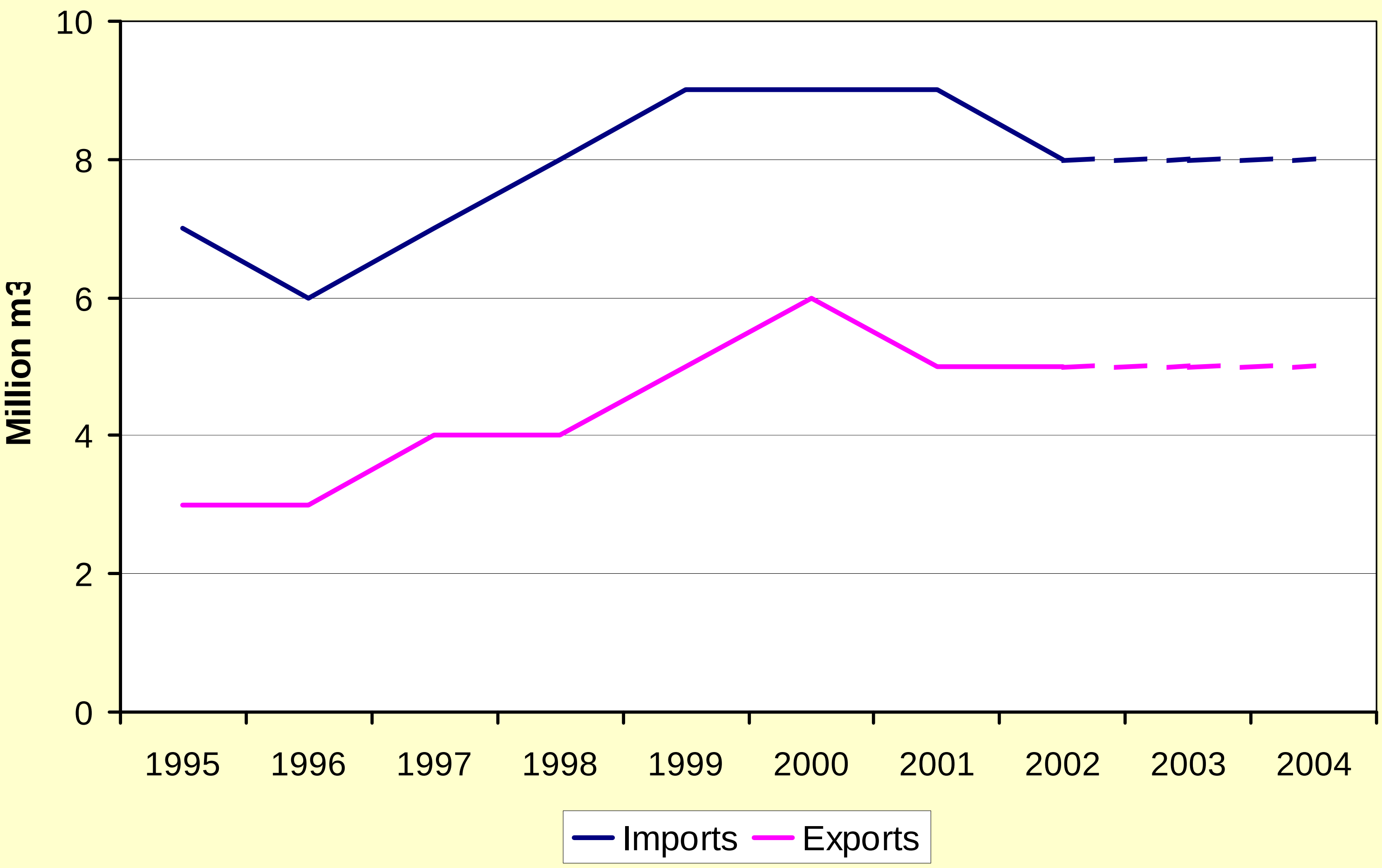
Source: UNECE Timber Committee forecasts, 10.2004

European hardwood lumber market, 1995-2004



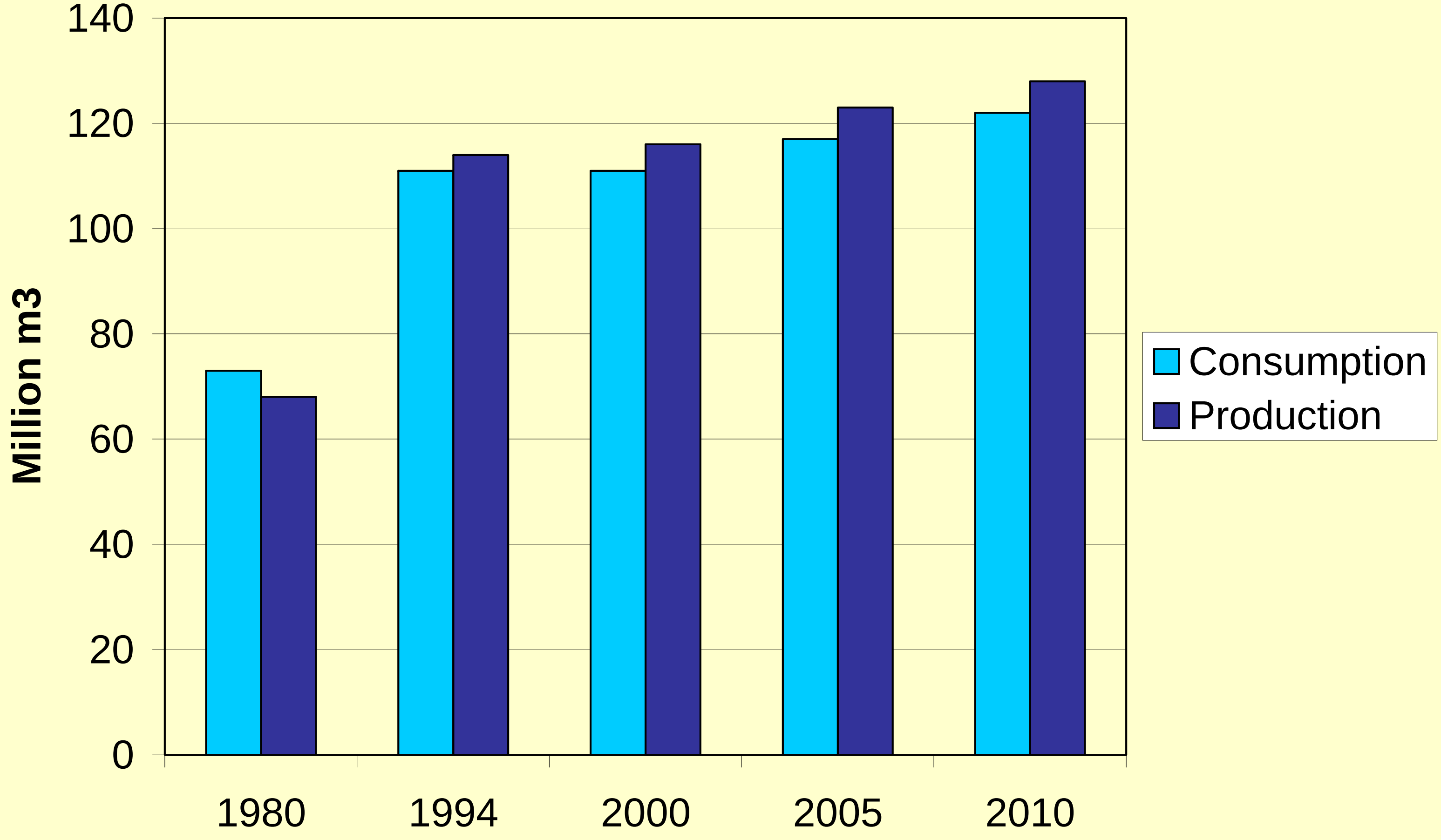
Source: UNECE Timber Committee forecasts, 10.2004

European hardwood lumber trade, 1995-2004



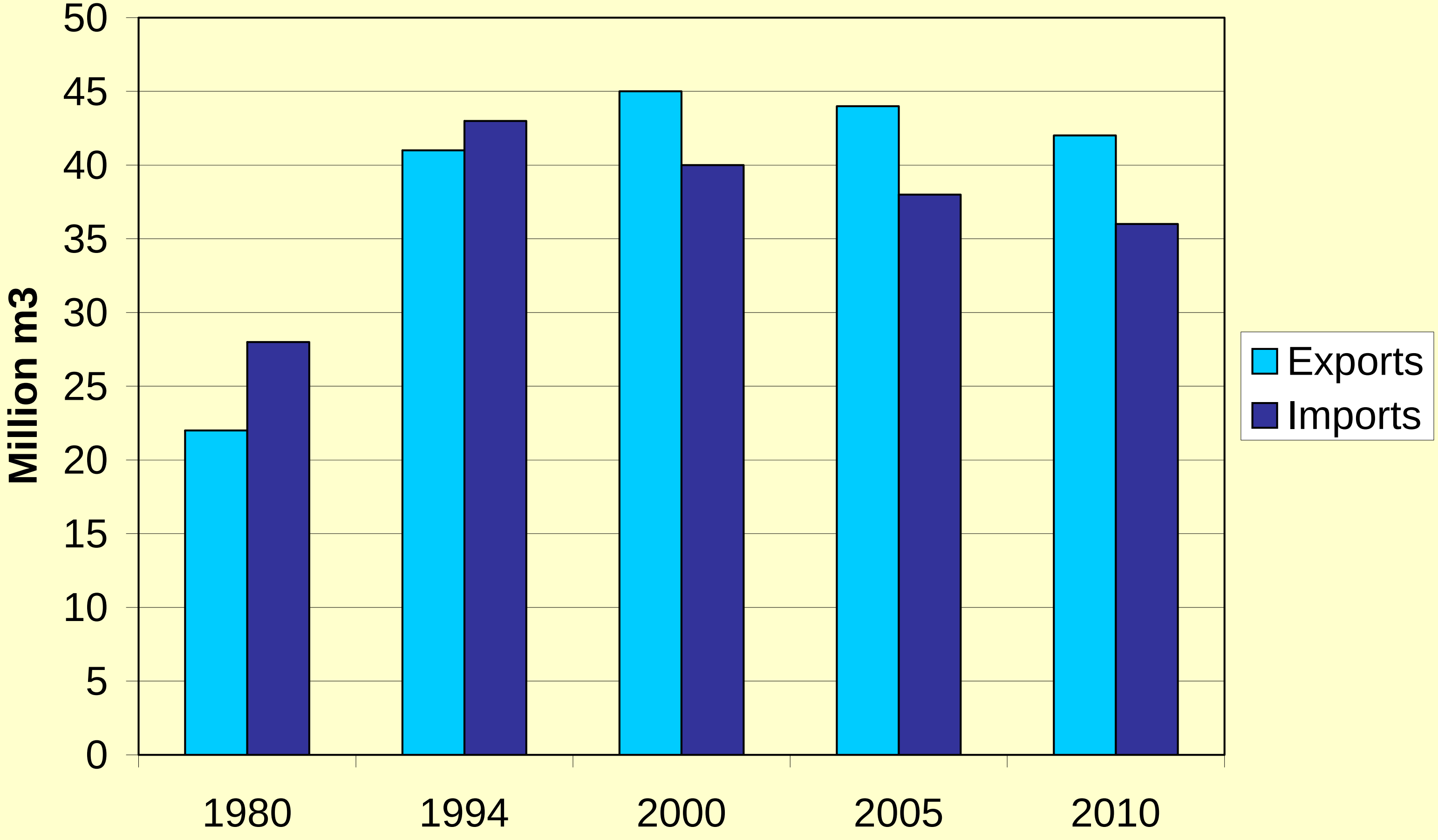
Source: UNECE Timber Committee forecasts, 10.2004

Europe lumber consumption and production to 2010



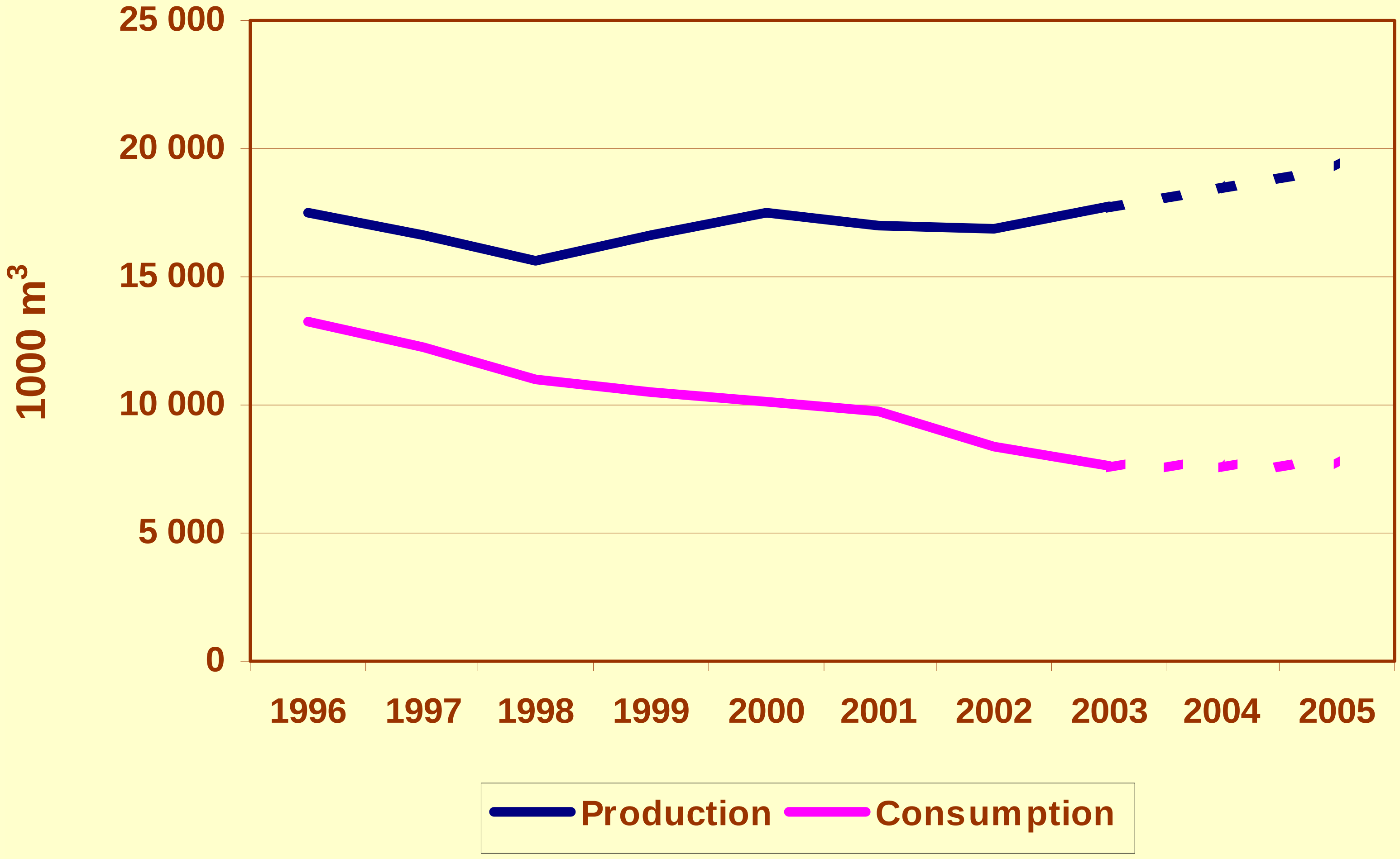
Source: *Global Forest Products Model, 2003*

Europe lumber trade to 2010



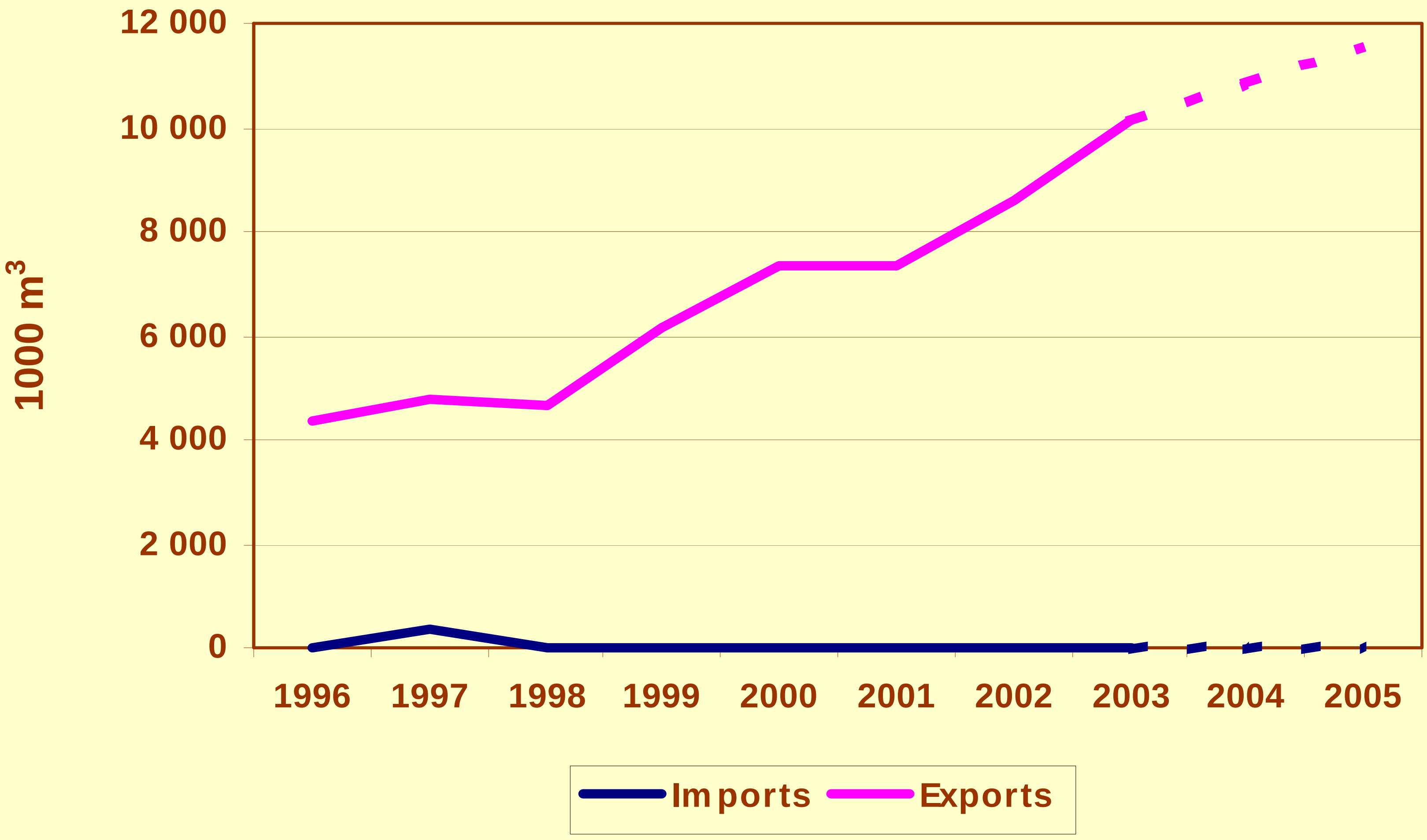
Source: *Global Forest Products Model, 2003*

Russian softwood lumber market, 1996-2005



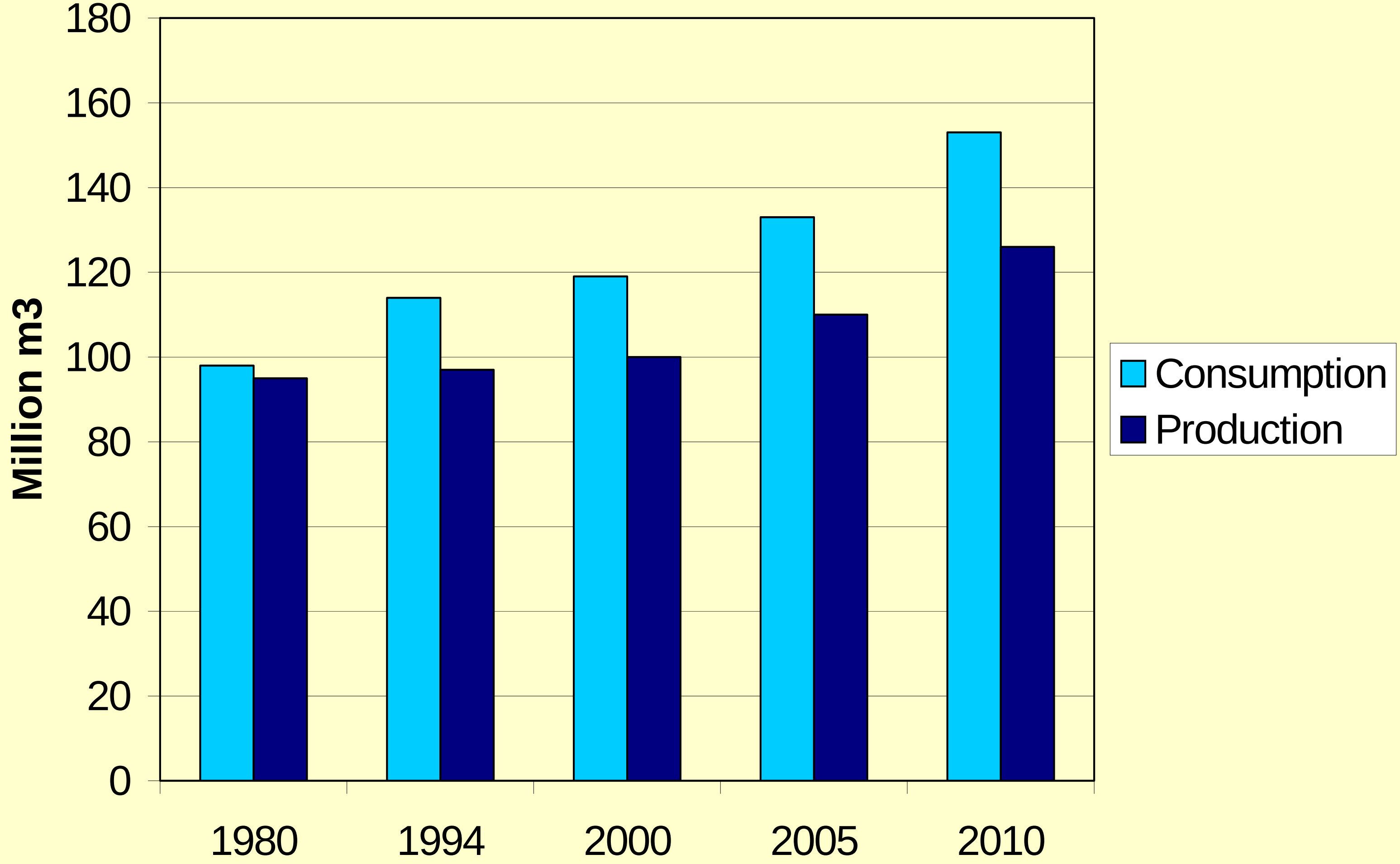
Source: UNECE Timber Committee forecasts, 10.2004

Russian softwood lumber trade, 1996-2005



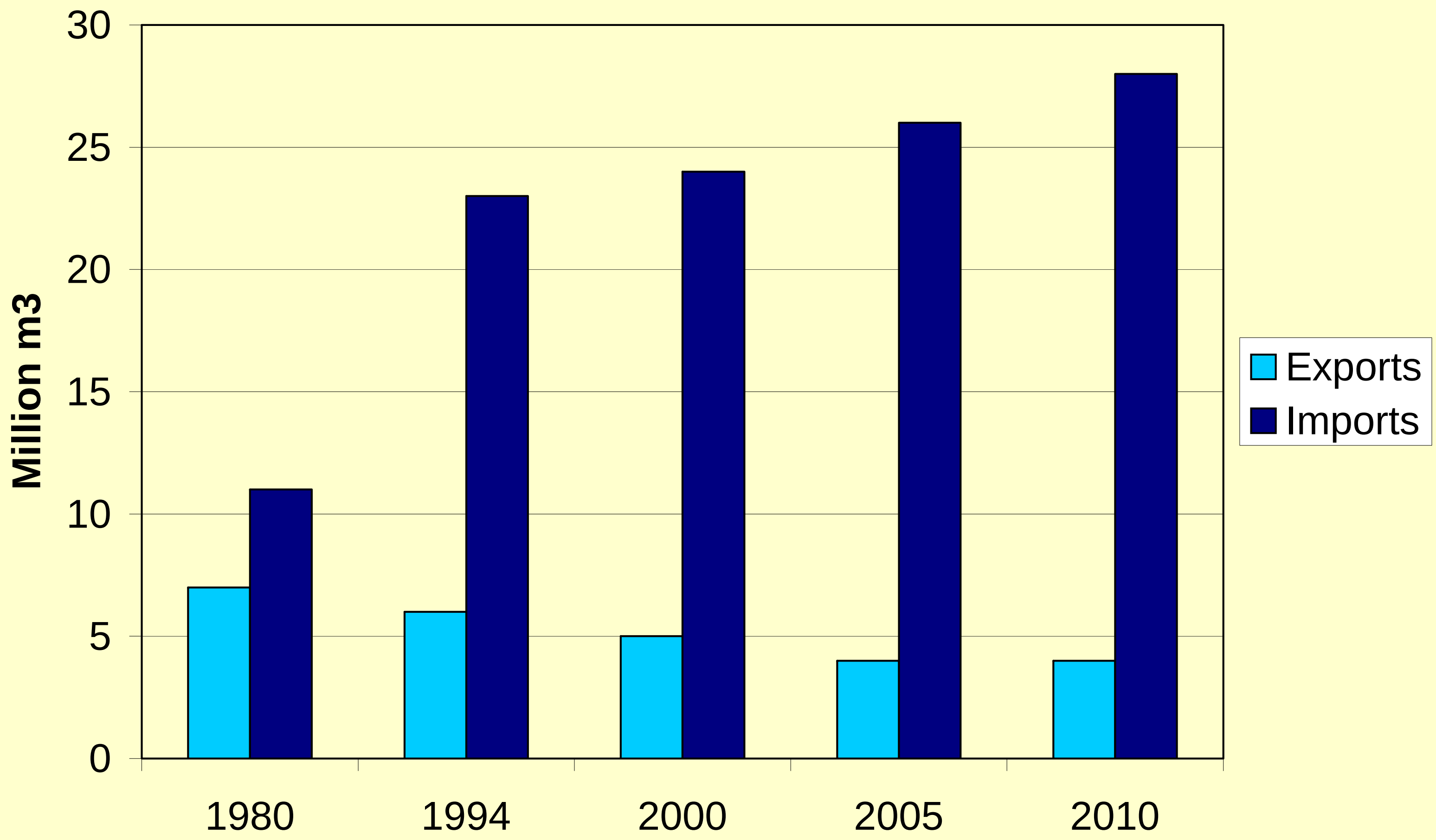
Source: UNECE Timber Committee forecasts, 10.2004

Asia lumber production and consumption to 2010



Source: *Global Forest Products Model, 2003*

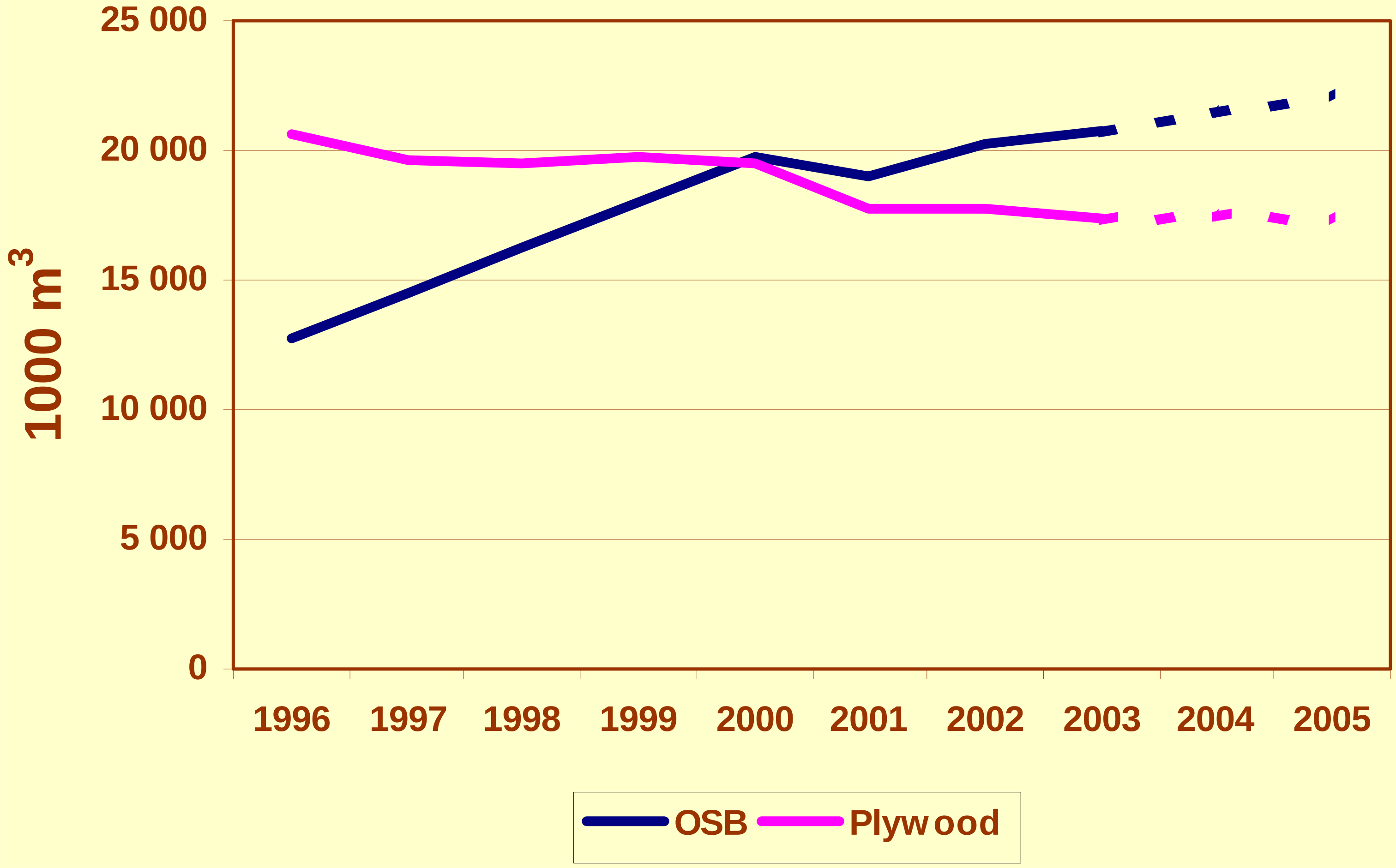
Asia lumber trade to 2010



Source: *Global Forest Products Model, 2003*

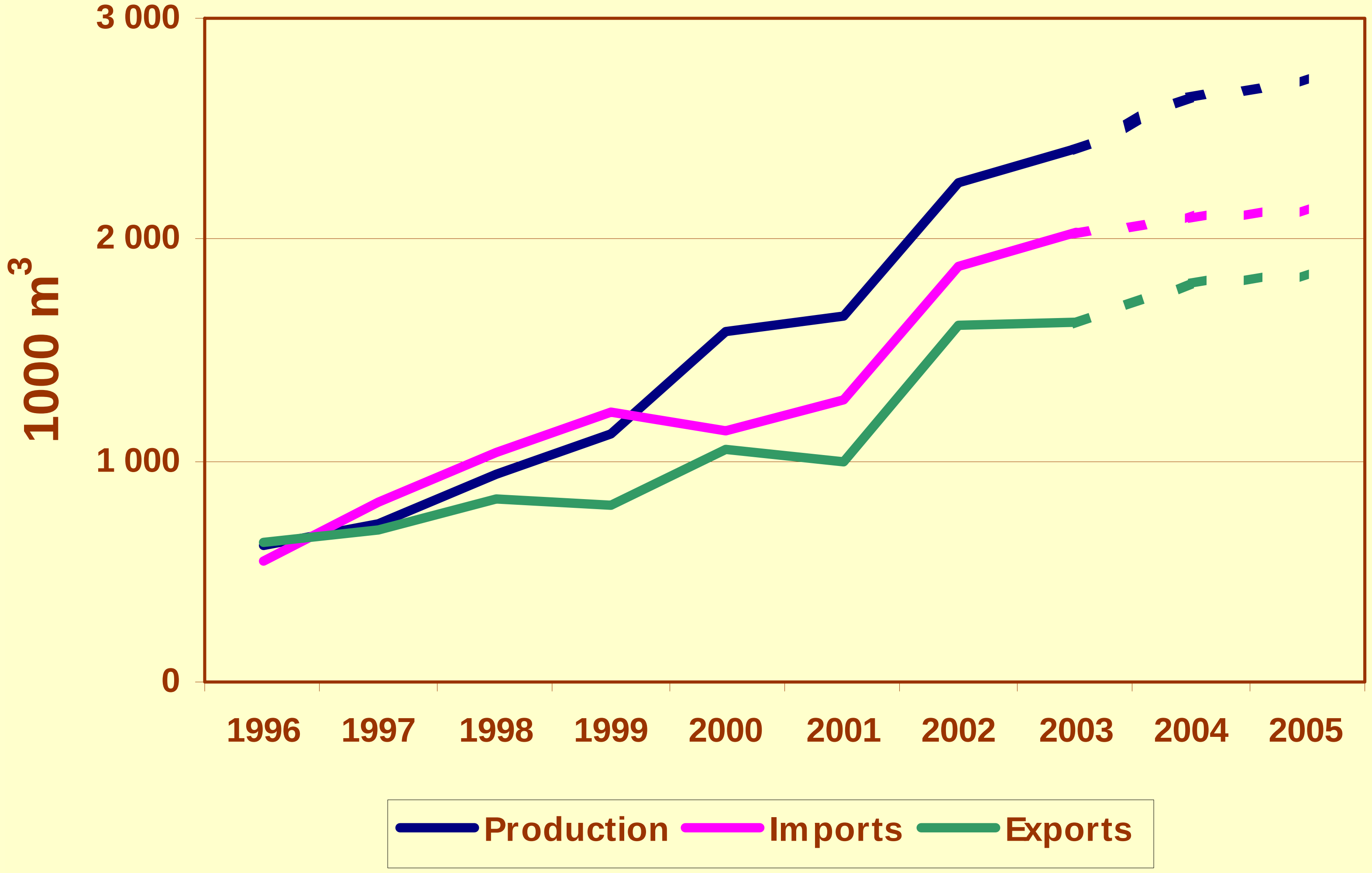
Sectoral analysis: Panels

North America structural panel production, 1996-2005



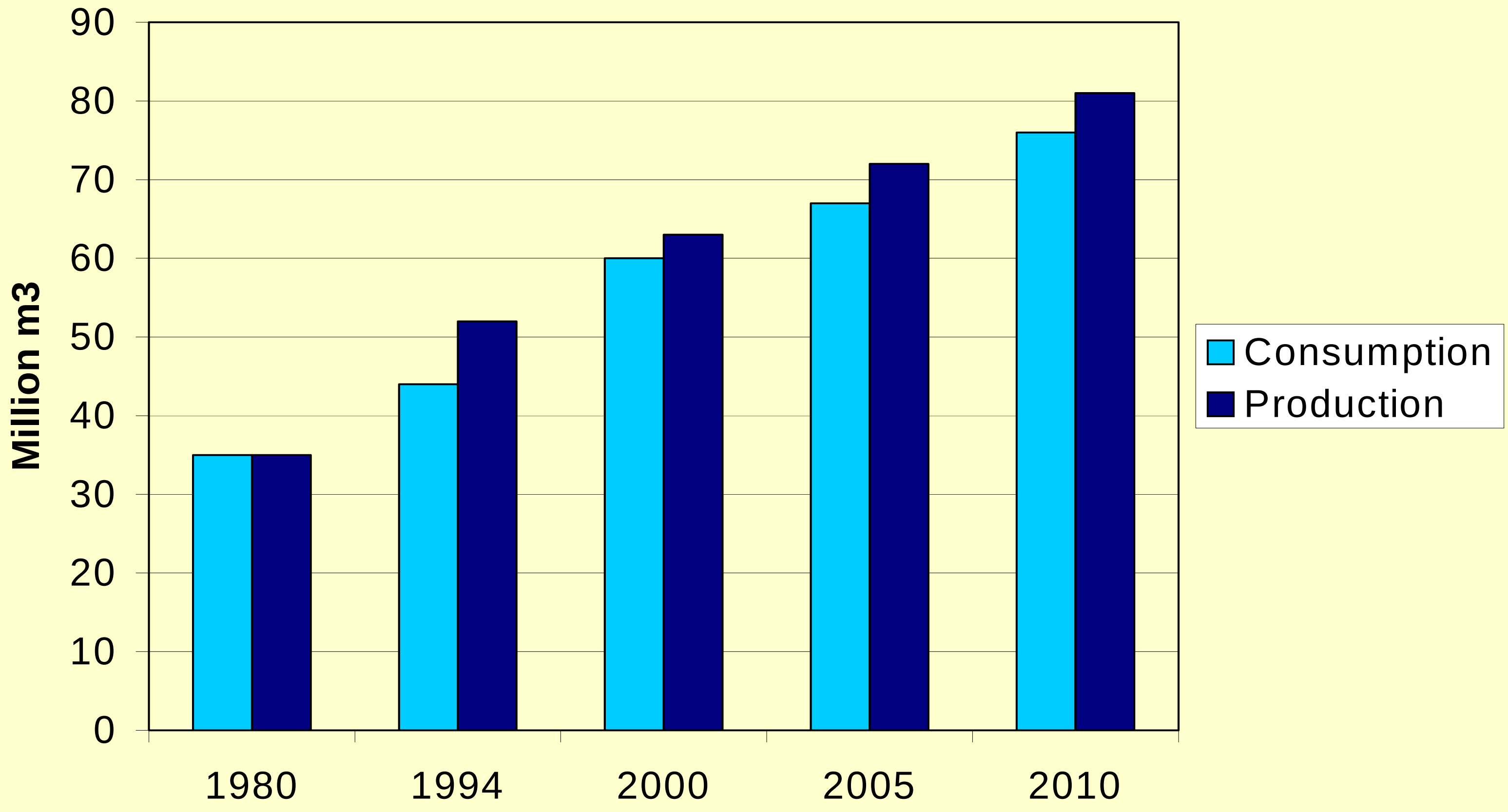
Source: UNECE Timber Committee forecasts, 10.2004

European OSB market, 1996-2005



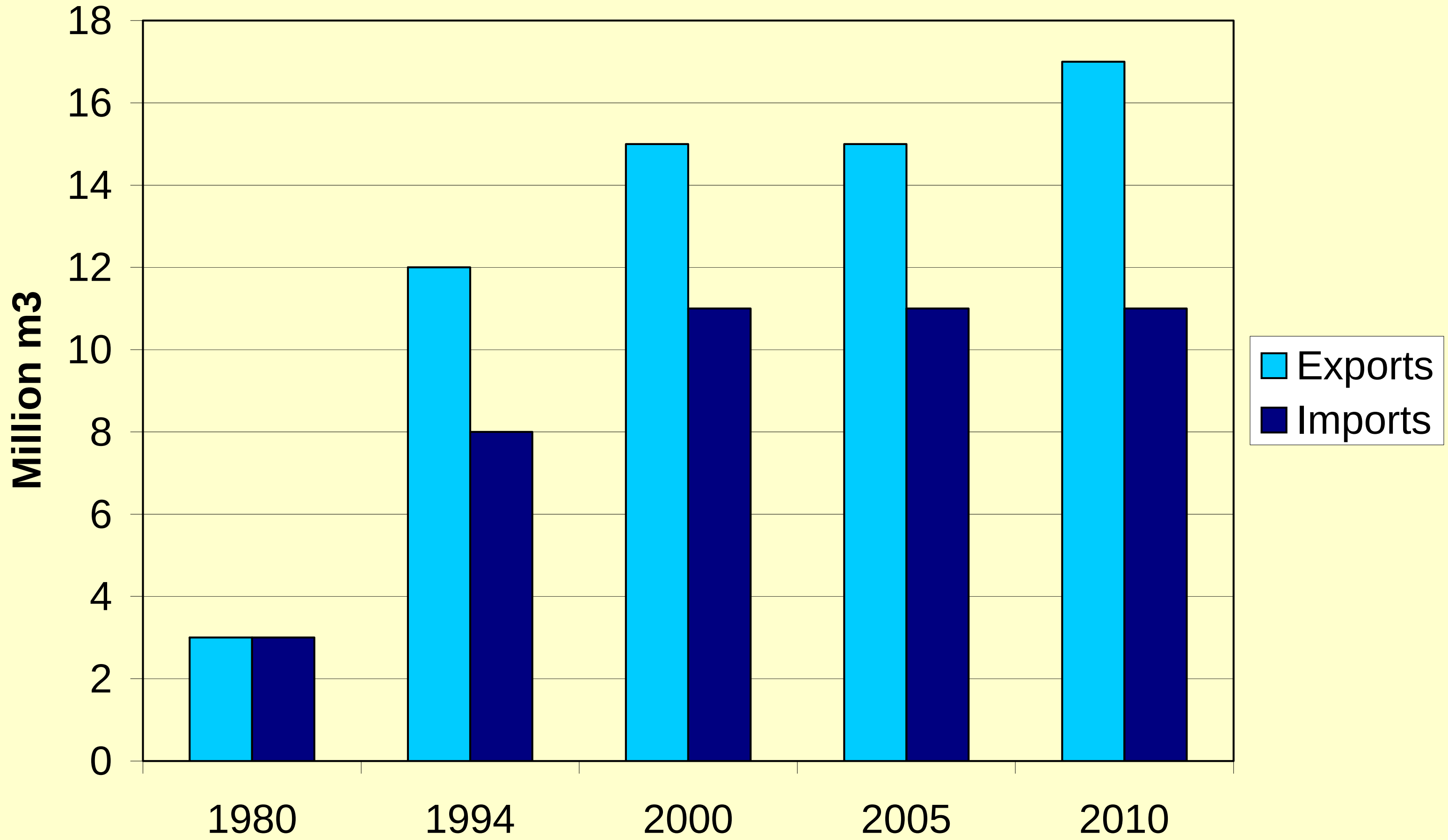
Source: UNECE Timber Committee forecasts, 10.2004

America panel consumption & production to 2010



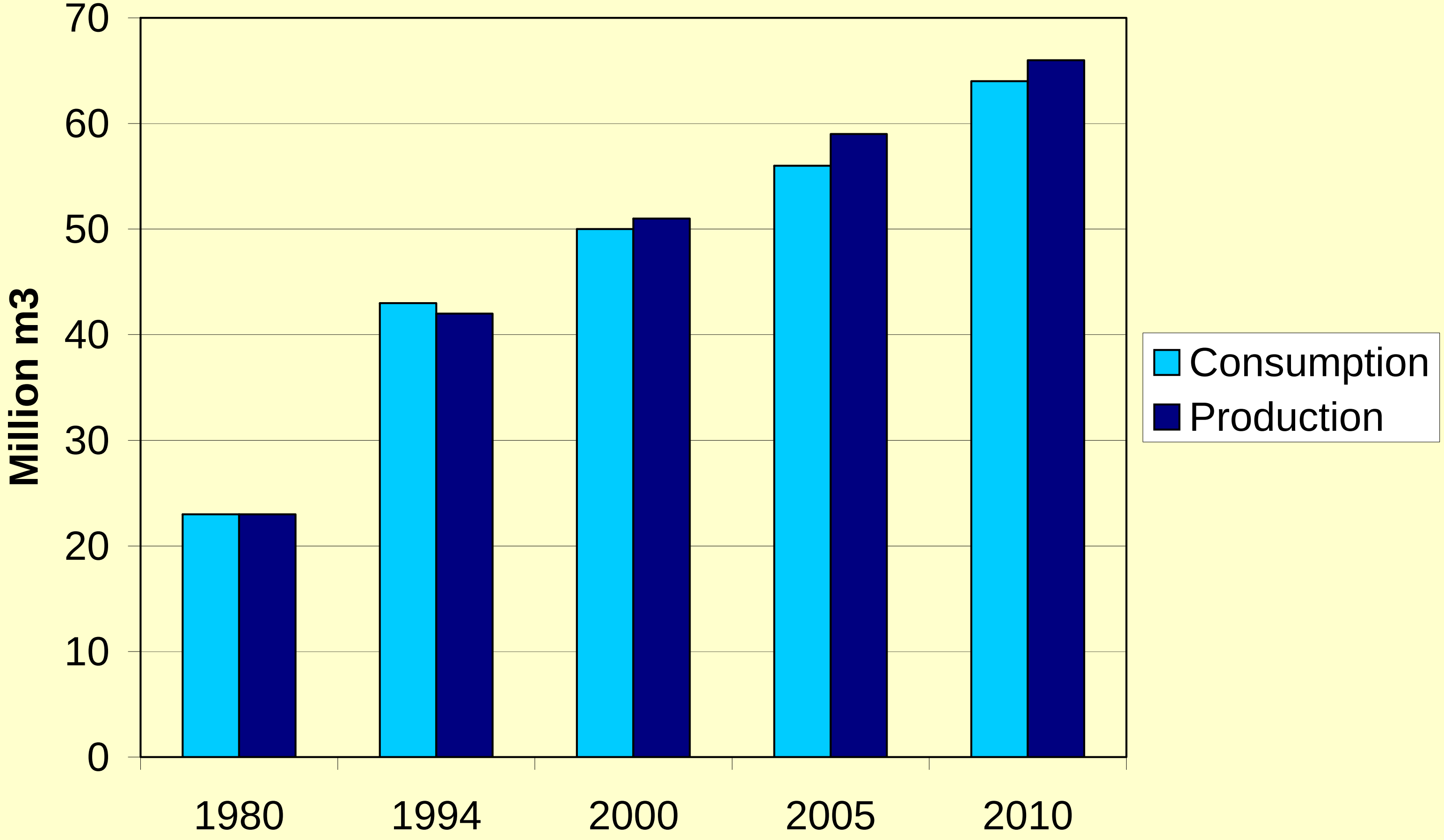
Source: *Global Forest Products Model, 2003*

America panel trade to 2010



Source: *Global Forest Products Model, 2003*

Europe panel consumption & production to 2010



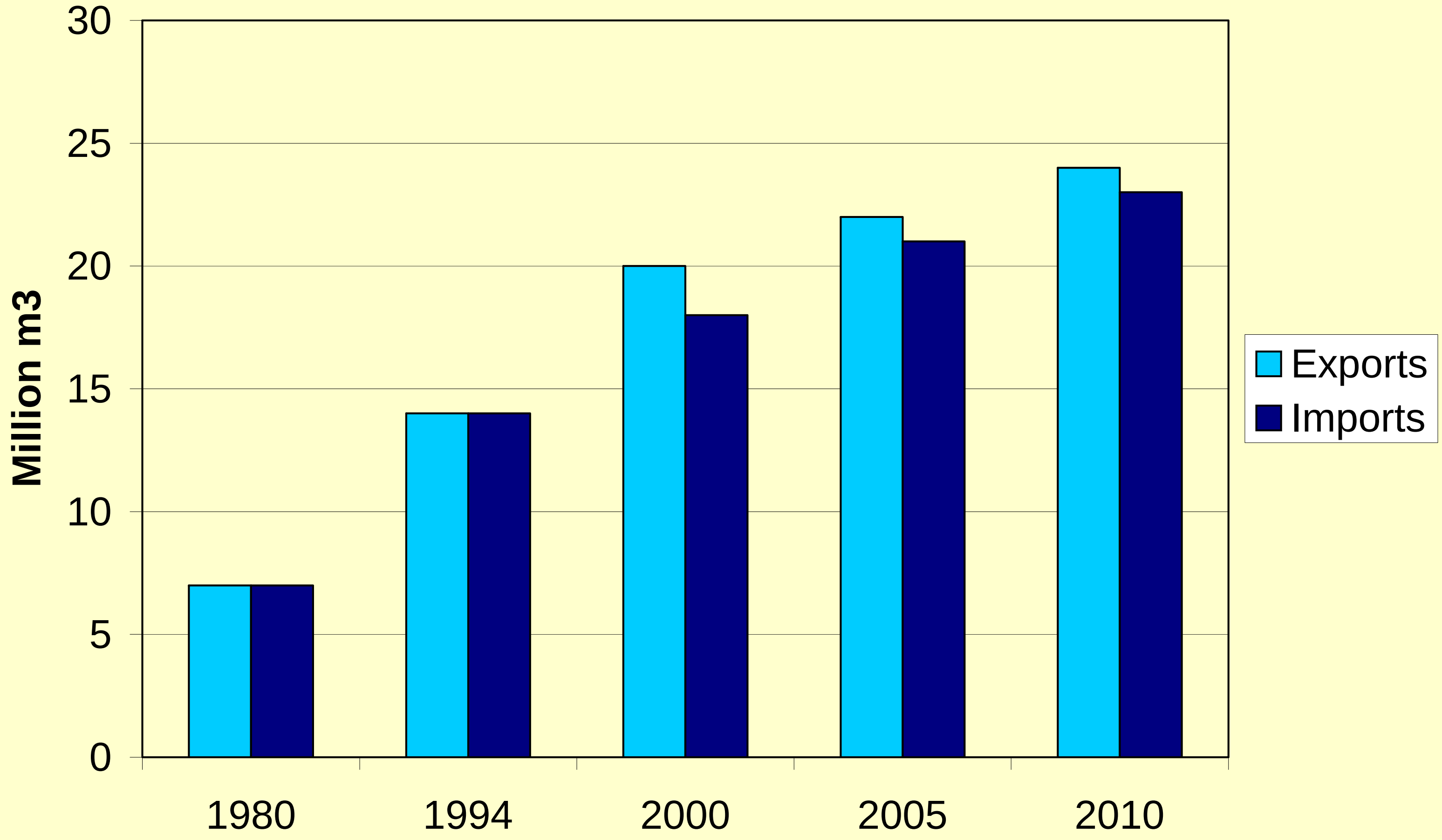
Source: *Global Forest Products Model, 2003*

Increasing small log demand

- For increasing panels production
- Lumber production rising slower
- For growing paper demand
- For rising packaging demand
  - Cardboard (paperboard)
  - Pallets
- Wood-based energy

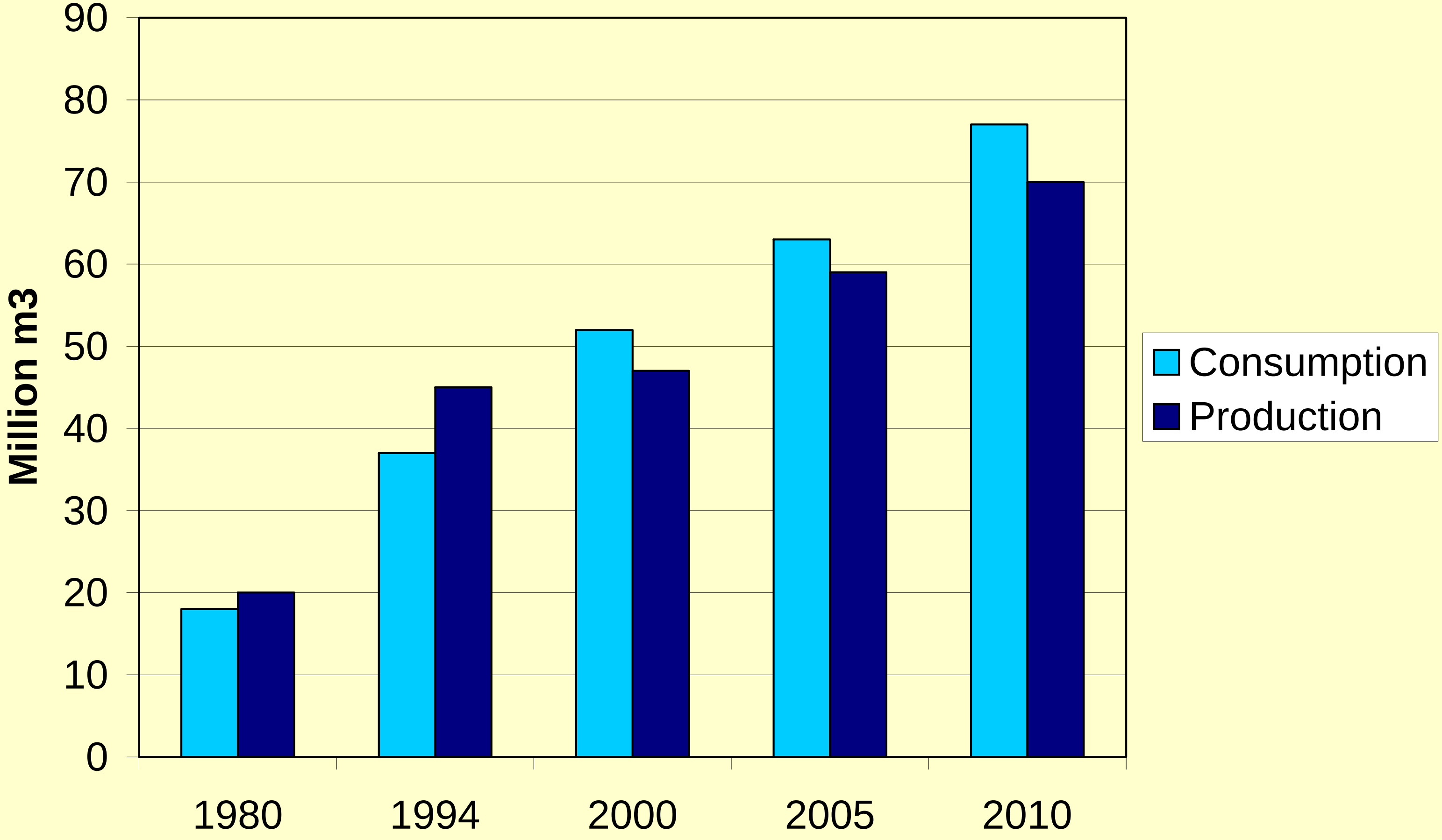
Main source: European Forest Sector Outlook Study, 2005.

Europe panel trade to 2010



Source: *Global Forest Products Model, 2003*

Asia panel consumption & production to 2010



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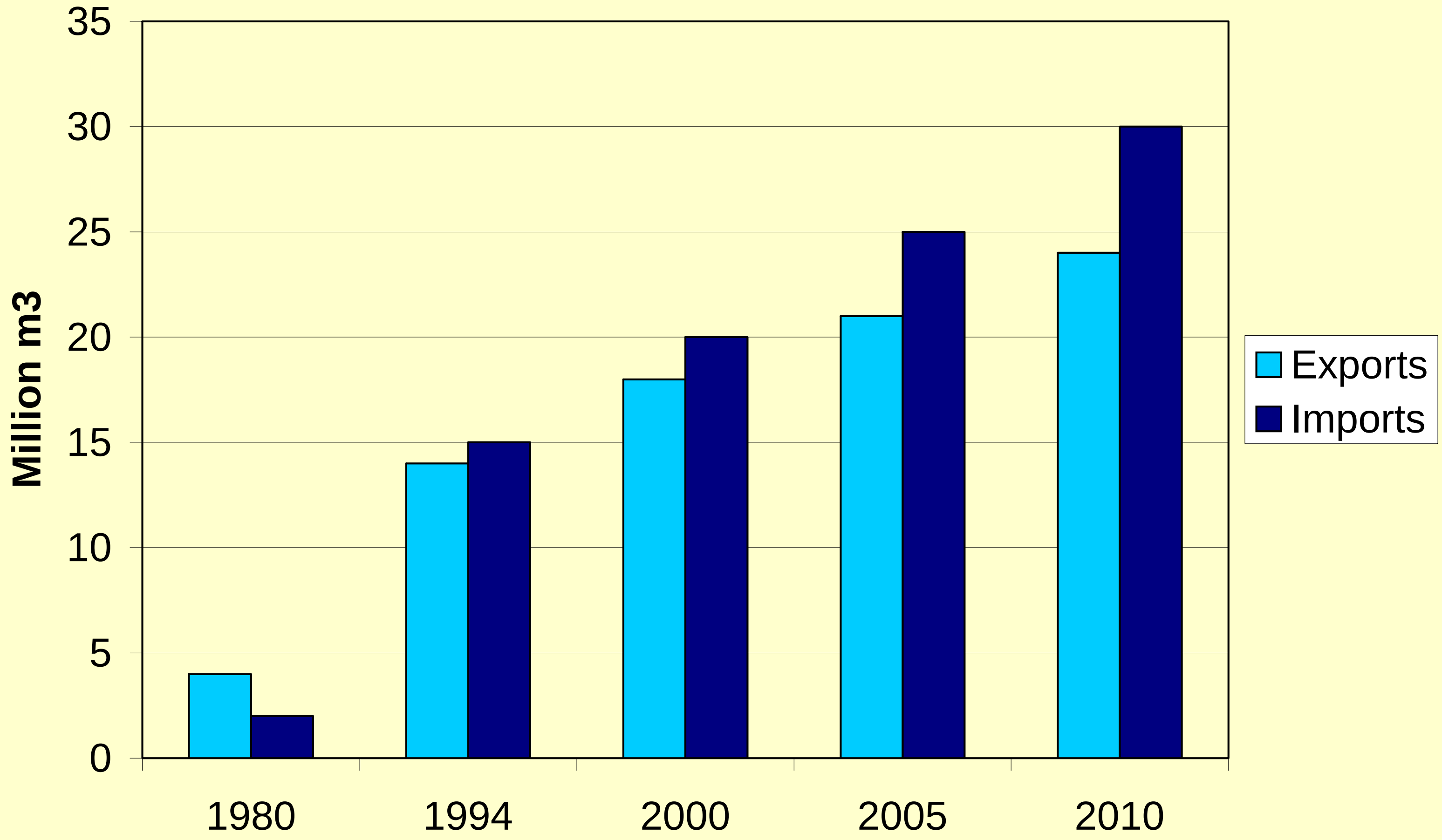


Source: *Global Forest Products Model, 2003*

An aside on the Chinese market

China's expanding trade

- Total export value 2003: $390 billion, +36%
- Total import value 2003: 371 billion, +39%
- Trade surplus: $20 billion
- China & Japan 2003 trade: $120 billion, +31%
- China & US 2003 trade: $114 billion, +29%
- China & Europe 2003 trade: $112 billion, +43%
- "Sudden growth" of primary product imports: timber, steel, oil, soybeans

Source: "China Forest Products Market Information", December 2003

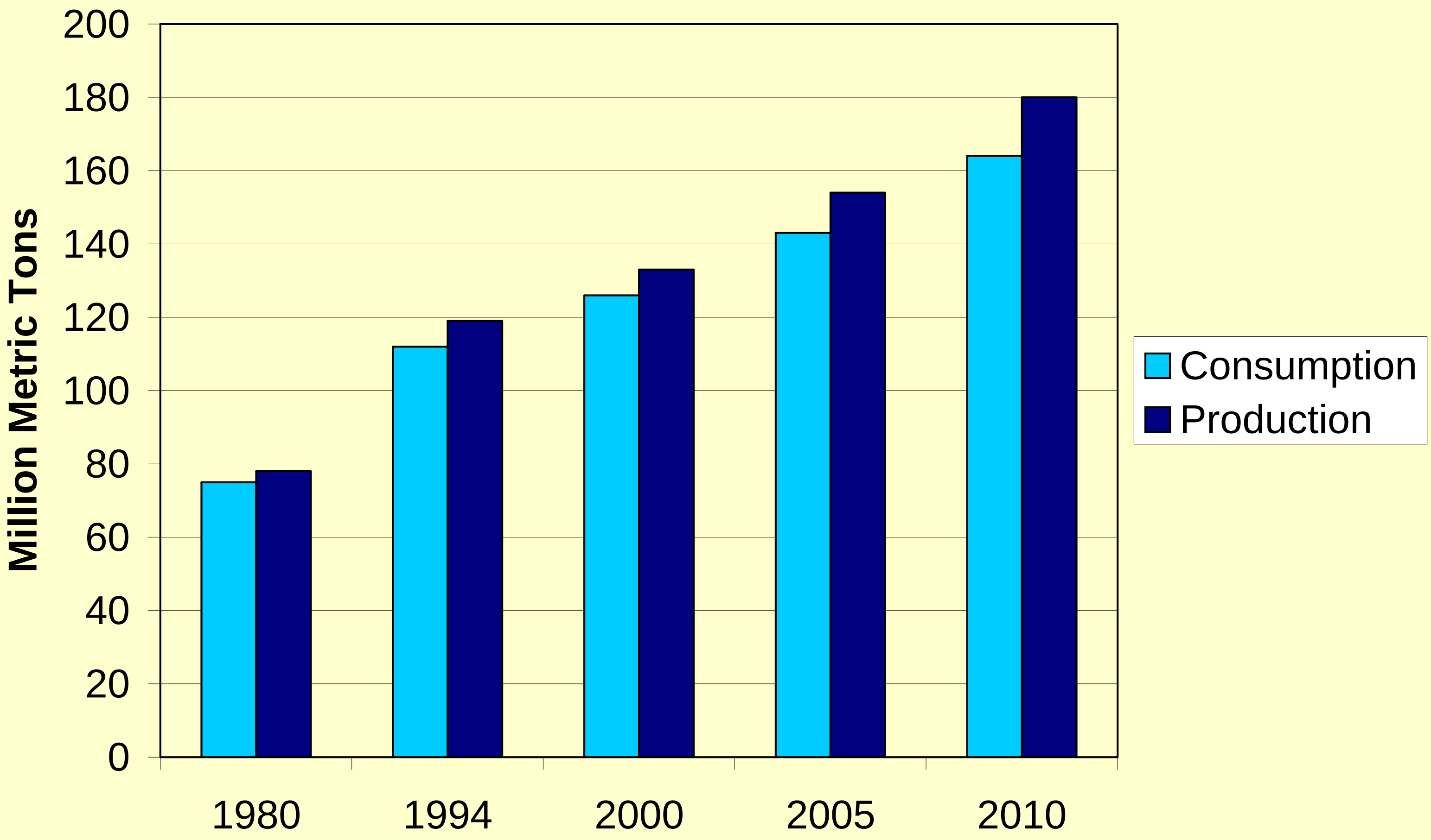
China's booming timber imports

- Housing construction
  - Only minority wood-based
  - Green and healthy communities
  - Affordable
- Renovation market for houses and municipal
- Infrastructure development
- Interior woodwork and furnishings
- Olympic-related construction (2008 Beijing)

Source: "China Forest Products Market Information", 2003

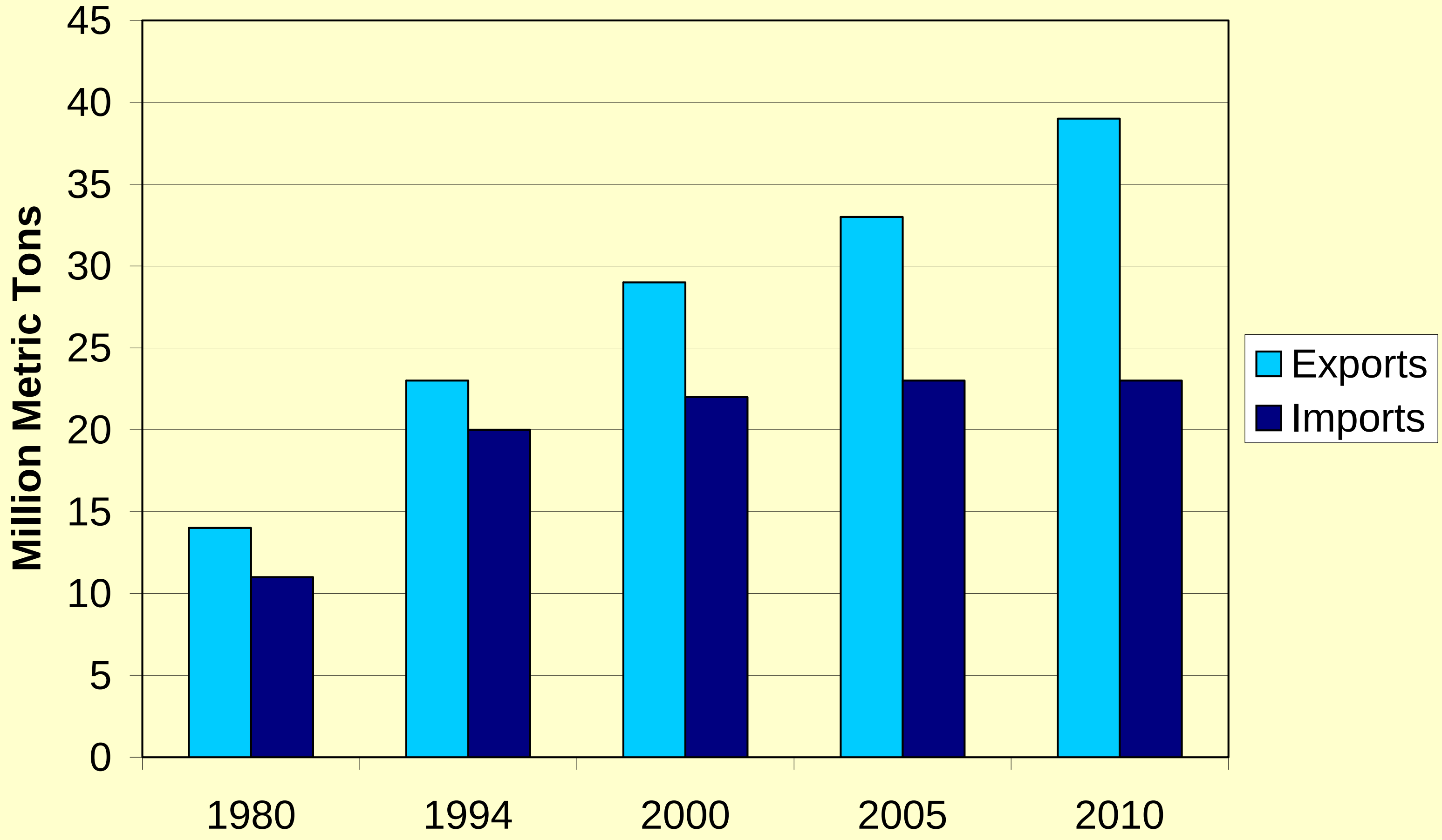
Sectoral analysis: Paper

N. American paper & paperboard consumption and production to 2010



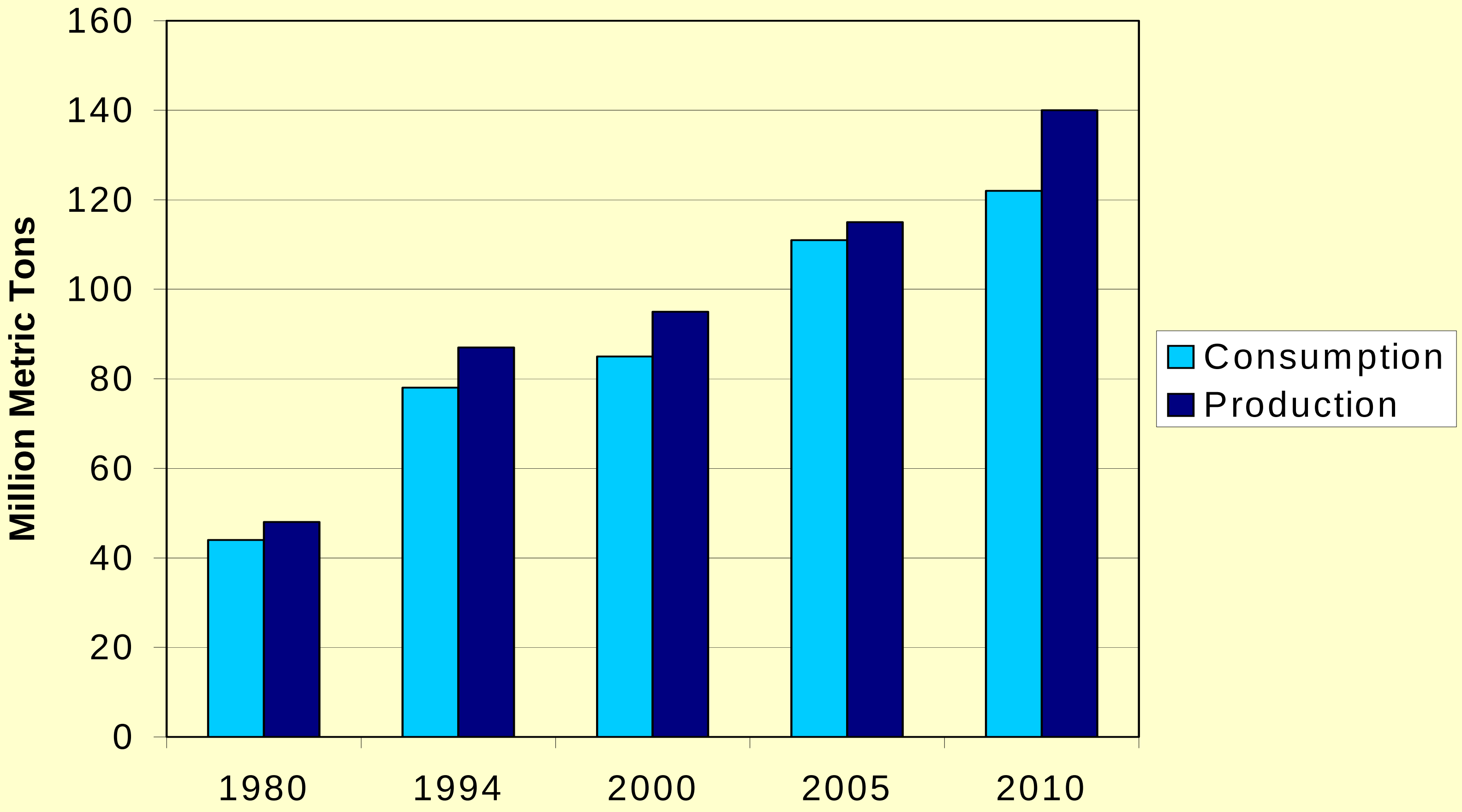
Source: *Global Forest Products Model, 2003*

N. America paper & paperboard trade to 2010



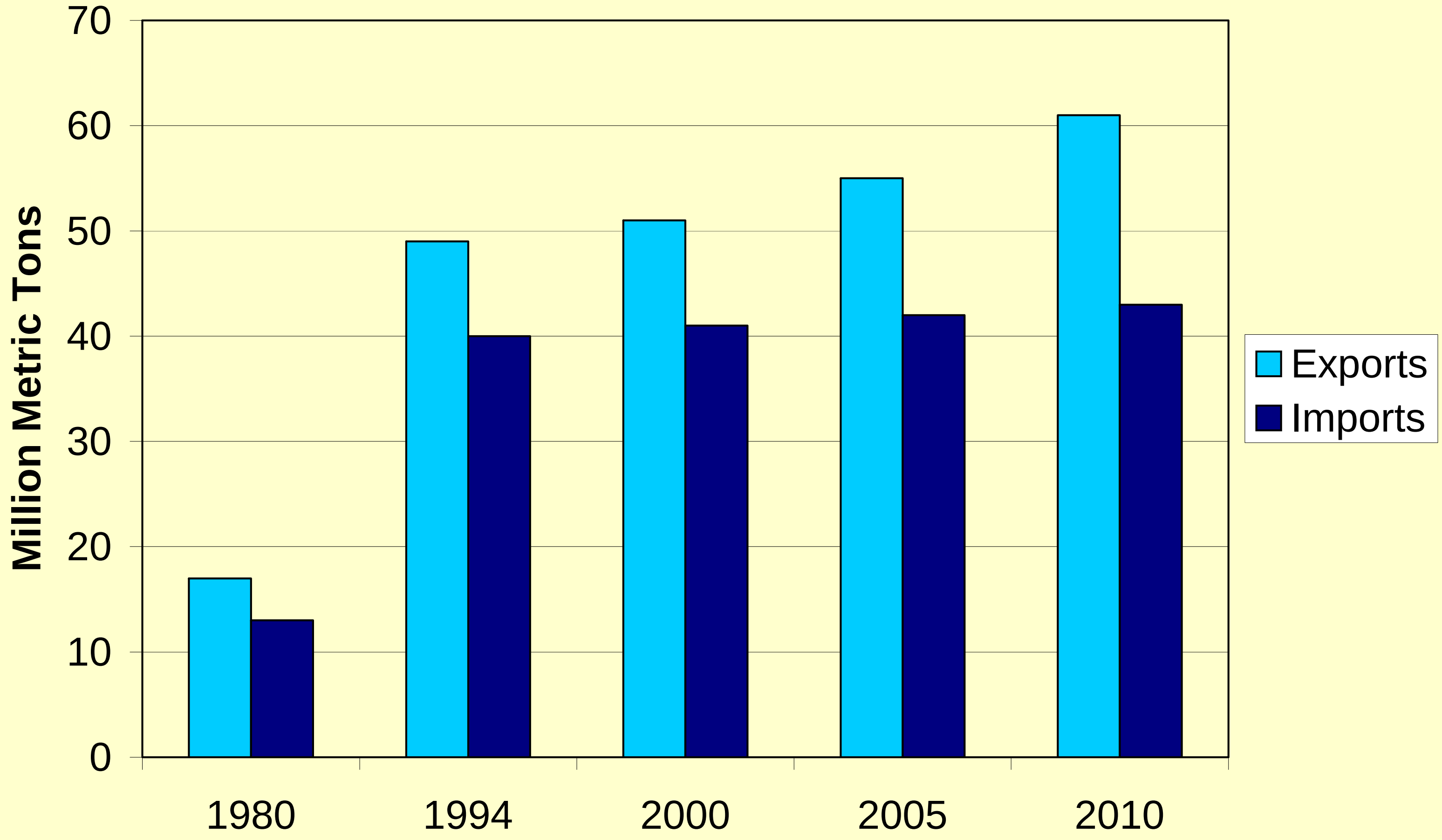
Source: *Global Forest Products Model, 2003*

European paper & paperboard consumption and production to 2010



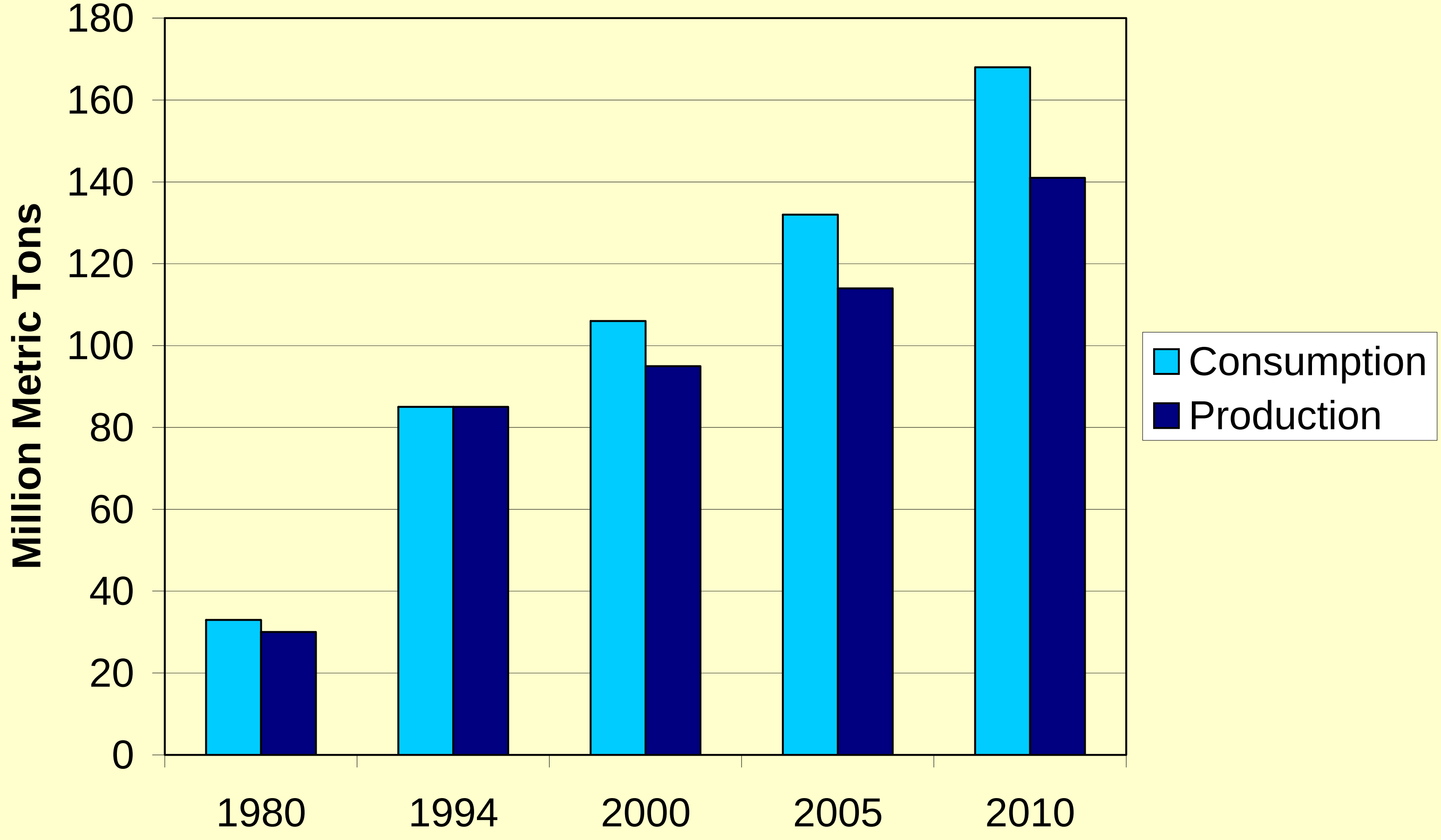
Source: *Global Forest Products Model, 2003*

Europe paper & paperboard trade to 2010



Source: *Global Forest Products Model, 2003*

Asia paper & paperboard consumption and production to 2010



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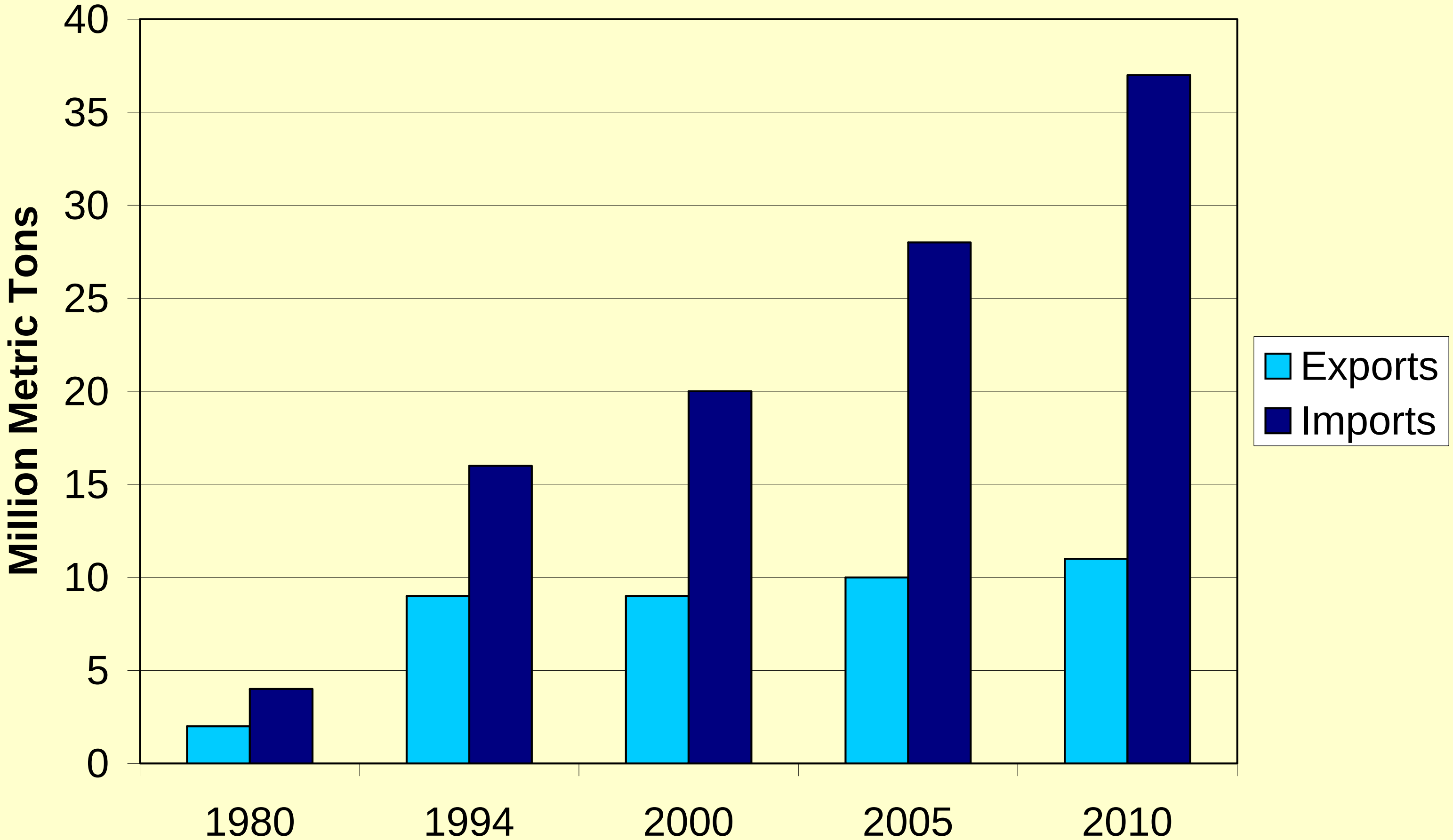
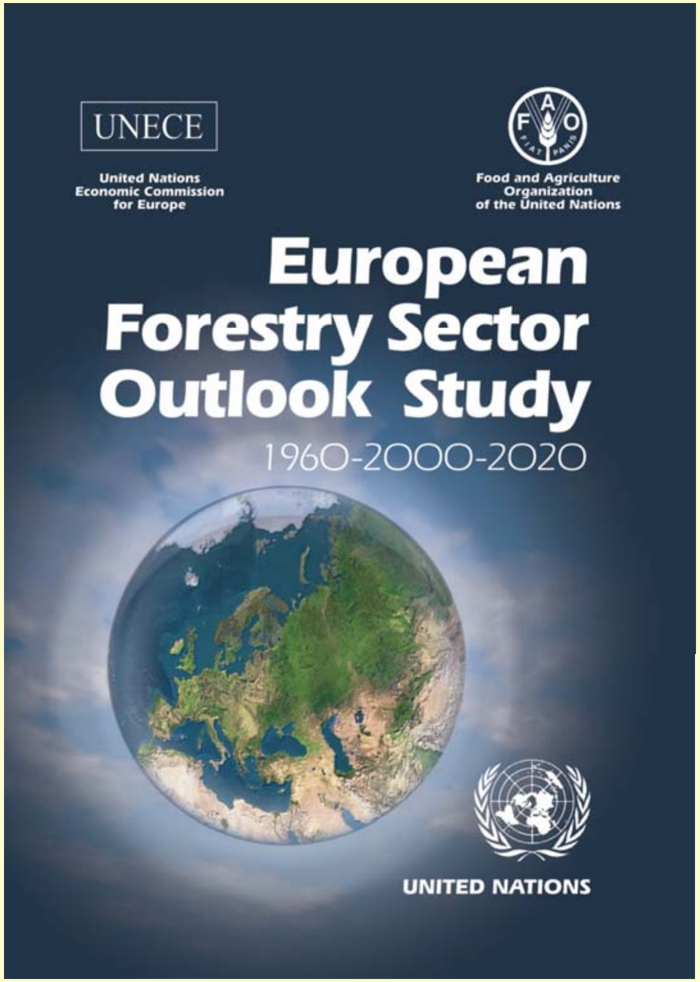
Asia paper & paperboard trade to 2010



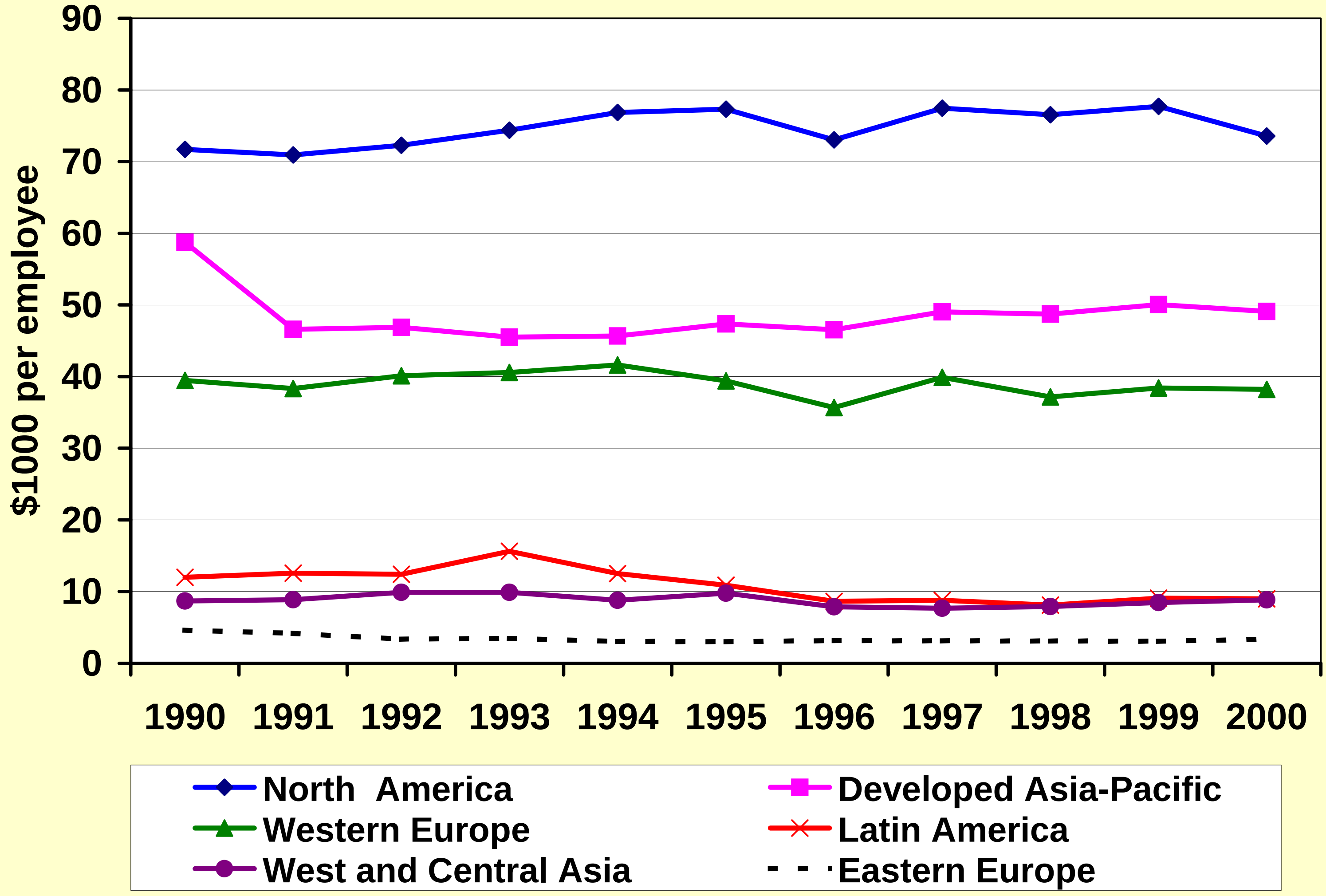
Source: *Global Forest Products Model, 2003*

New EFSOS market conclusions



- Collapse in CIS and eastern Europe, 1990s
- Partial recovery
- Increased small log demand
- Increased recovered materials
- Intensifying trade
- Declining log prices
- Renewable energy

Productivity in wood industry by region



Source: *FAO Trends and current status of the contribution of the forestry sector to national economies*, 2004

Summary: Key market issues (1 of 2)

- Illegal logging and trade of illegally-sourced wood
- Certification of sustainable forest management, markets for certified forest products
- Policies for promotion of sound use of wood
- Research and development policies
- Industry competitiveness and investment policy

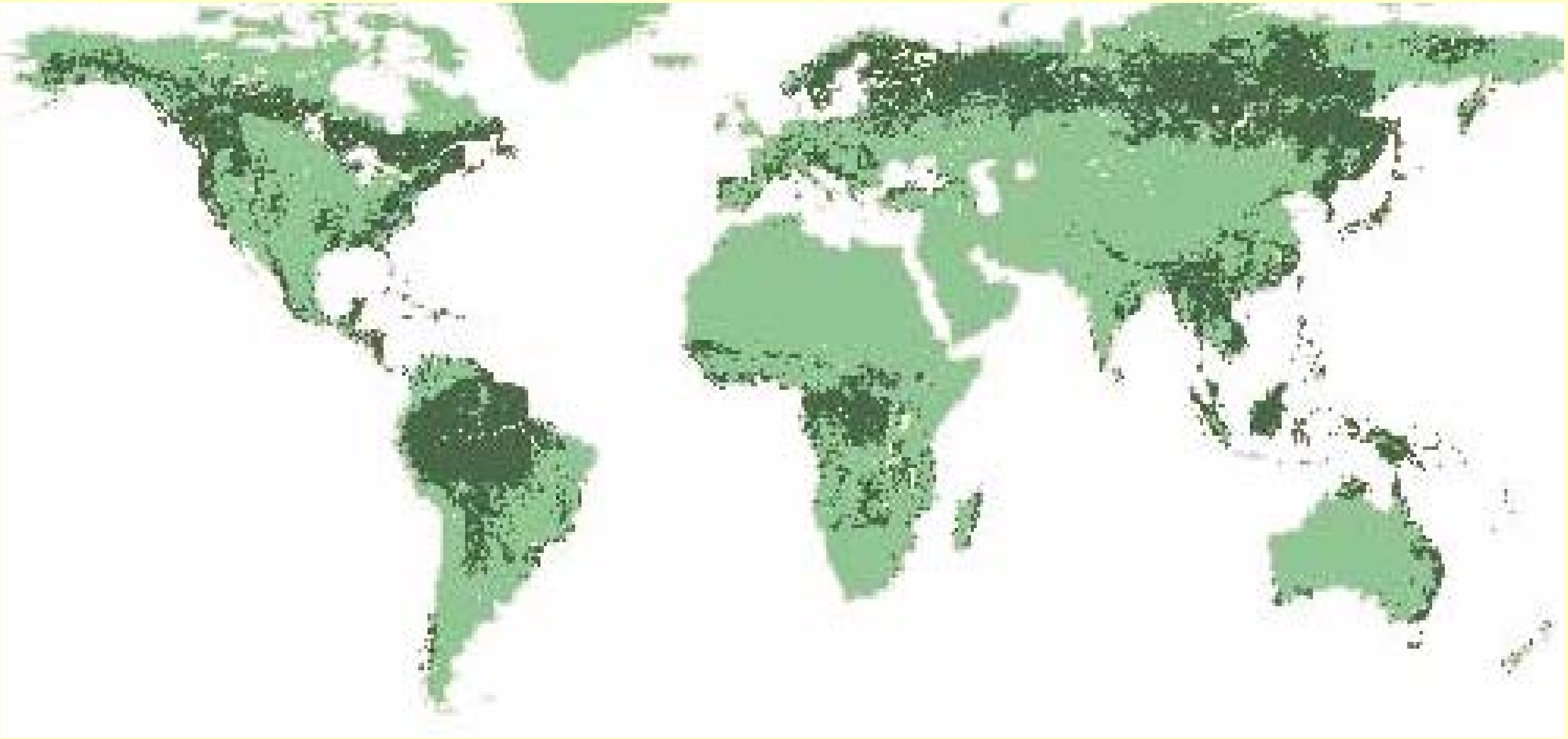
Source: *Forest Products Annual Market Review, 2003-2004*

Summary: Key market issues (2 of 2)

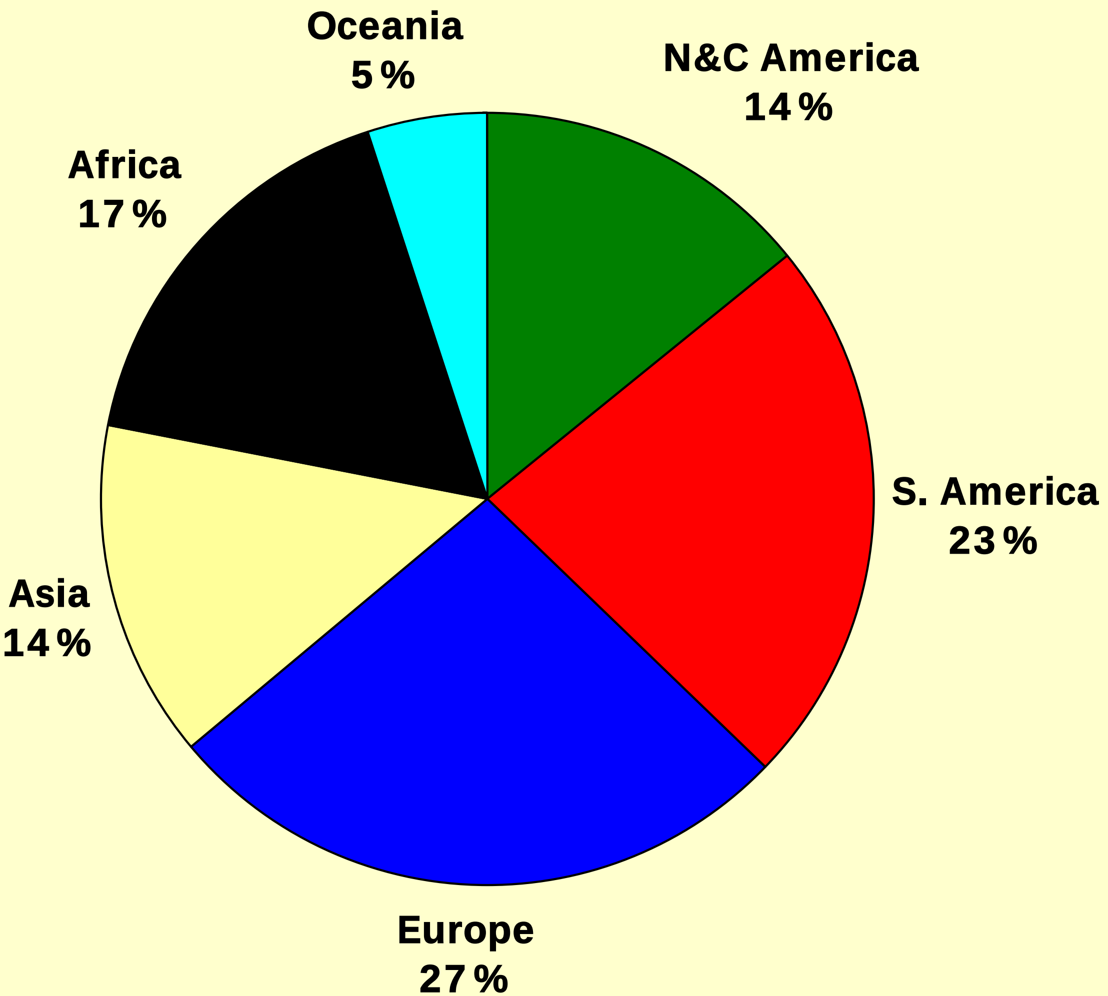
- Global competition → Increased efficiency in manufacturing, new marketing strategies
- Climate change policy, carbon trading
- Wood energy promotion policies
- Trade policy, tariff and non-tariff barriers

Source: *Forest Products Annual Market Review, 2003-2004*

III. Forest resources

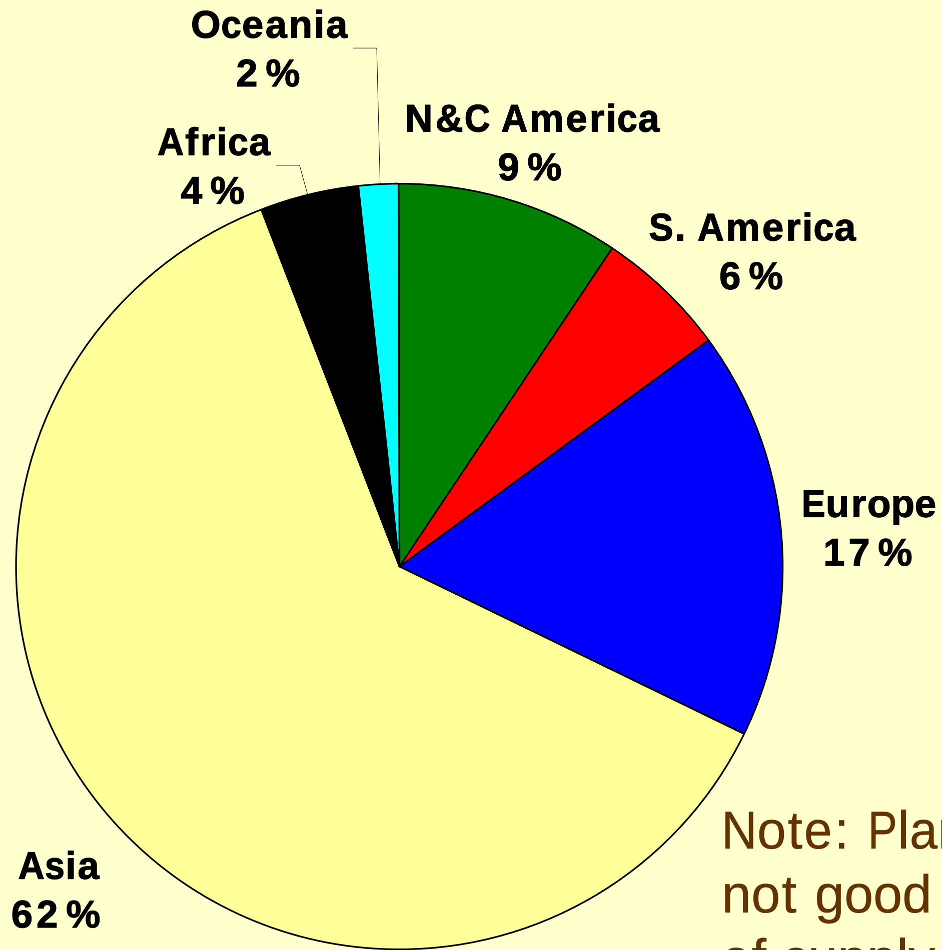


Where are the forests?



Source: FAO *State of the World's Forests 2005*

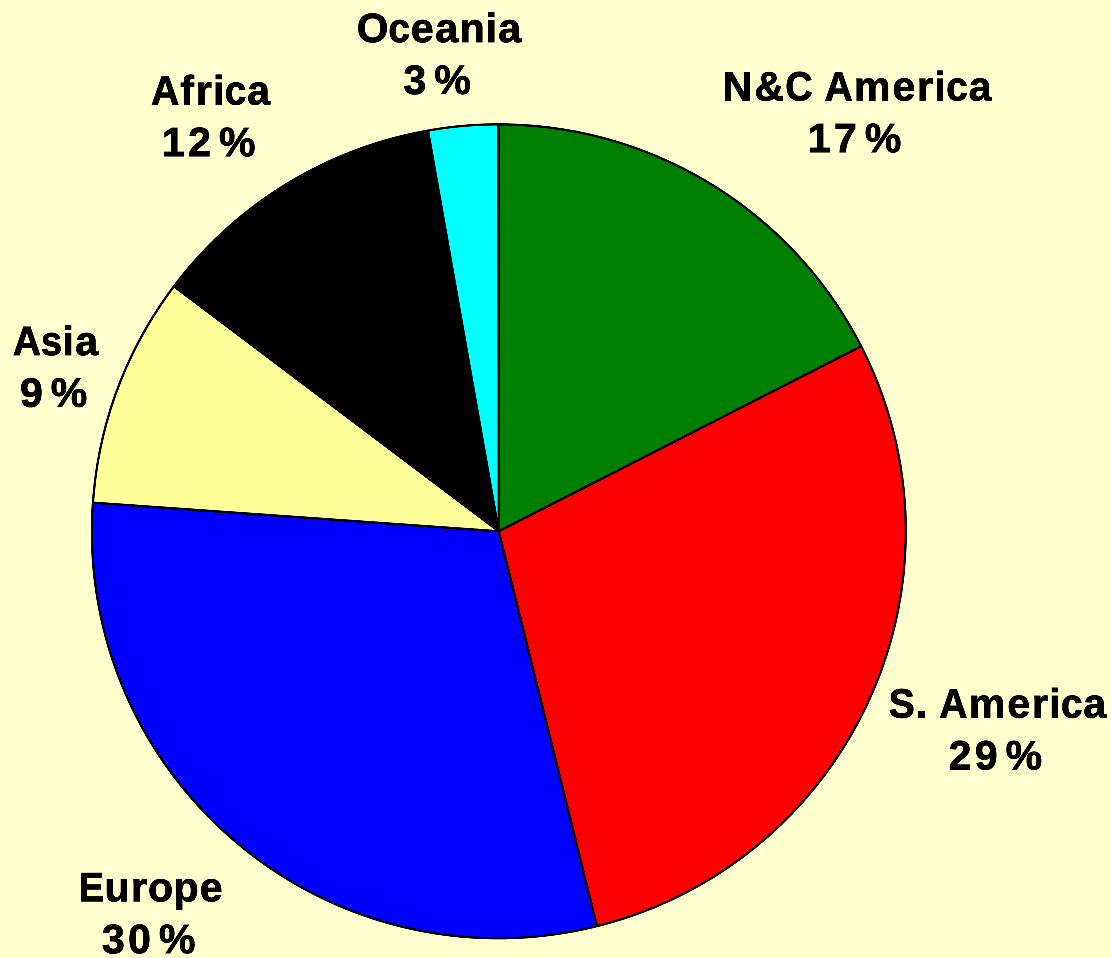
Where are the plantations?



Note: Plantation area not good indicator of supply.

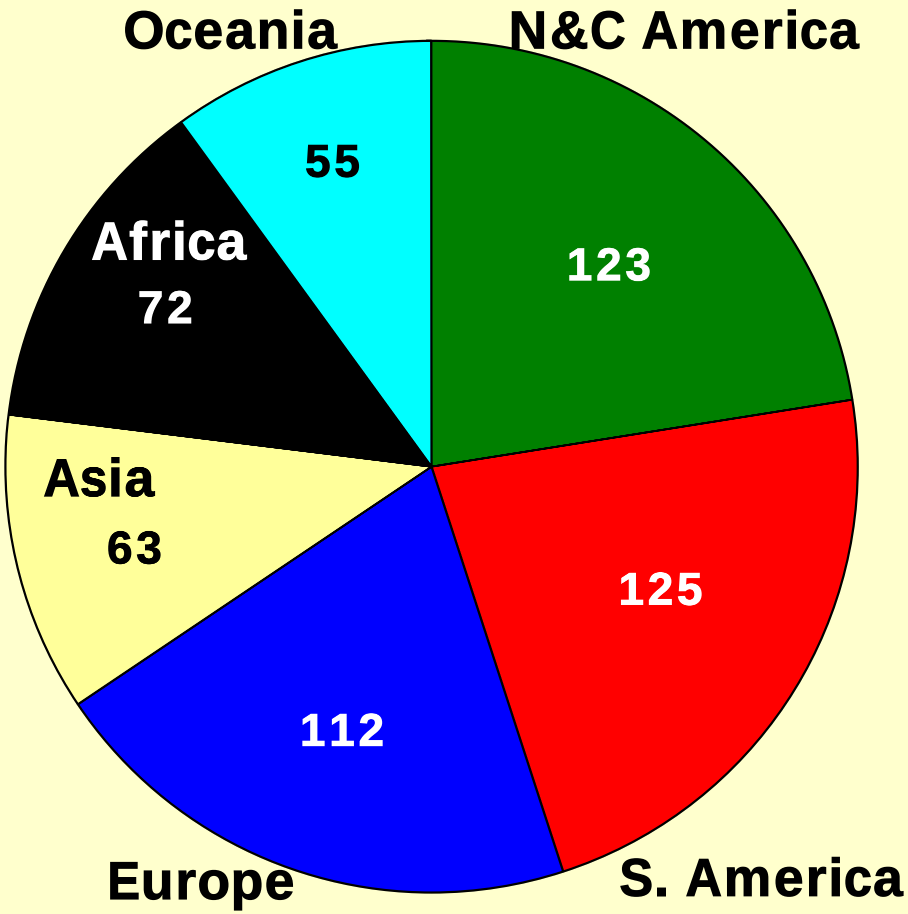
Source: FAO *State of the World's Forests 2005*

Where's the wood?



Source: FAO *State of the World's Forests 2005*

Wood volume (m^3) per hectare



- N&C America
  - US 135 m3
  - Canada 120 m3
  - Guatemala 350 m3
- Oceania: NZ 125 m3
- S. America: Chile 160
- Europe
  - Switzerland 340 m3
  - Germany 270 m3
  - France 190 m3
  - Russia 105 m3

Big logs in Switzerland

- 2^{nd} highest wood volume per forest
  - 340 m3 per hectare
  - Only Guatemala higher at 355 m3
- 1/3 forested, mostly on higher ground
- Why? Centuries of big log forest management
- Not only lumber and beams, also protection
- But...1999 windstorms
  - Took tall, old, large diameter
  - 2 years' harvest in 3 days in Switzerland
  - 1 year's in all of Europe in 3 days.

Small logs in Switzerland?

- Climate change → more windstorms, more storm damage and windthrow
- Large logs cost more energy and time for
  - Transportation and handling
  - Conversion
- Reduced consumption of solid beams and wide lumber
- Increased composite panels, edge-glued panels, glulam and other EWPs
- European foresters changing “big log” mentality

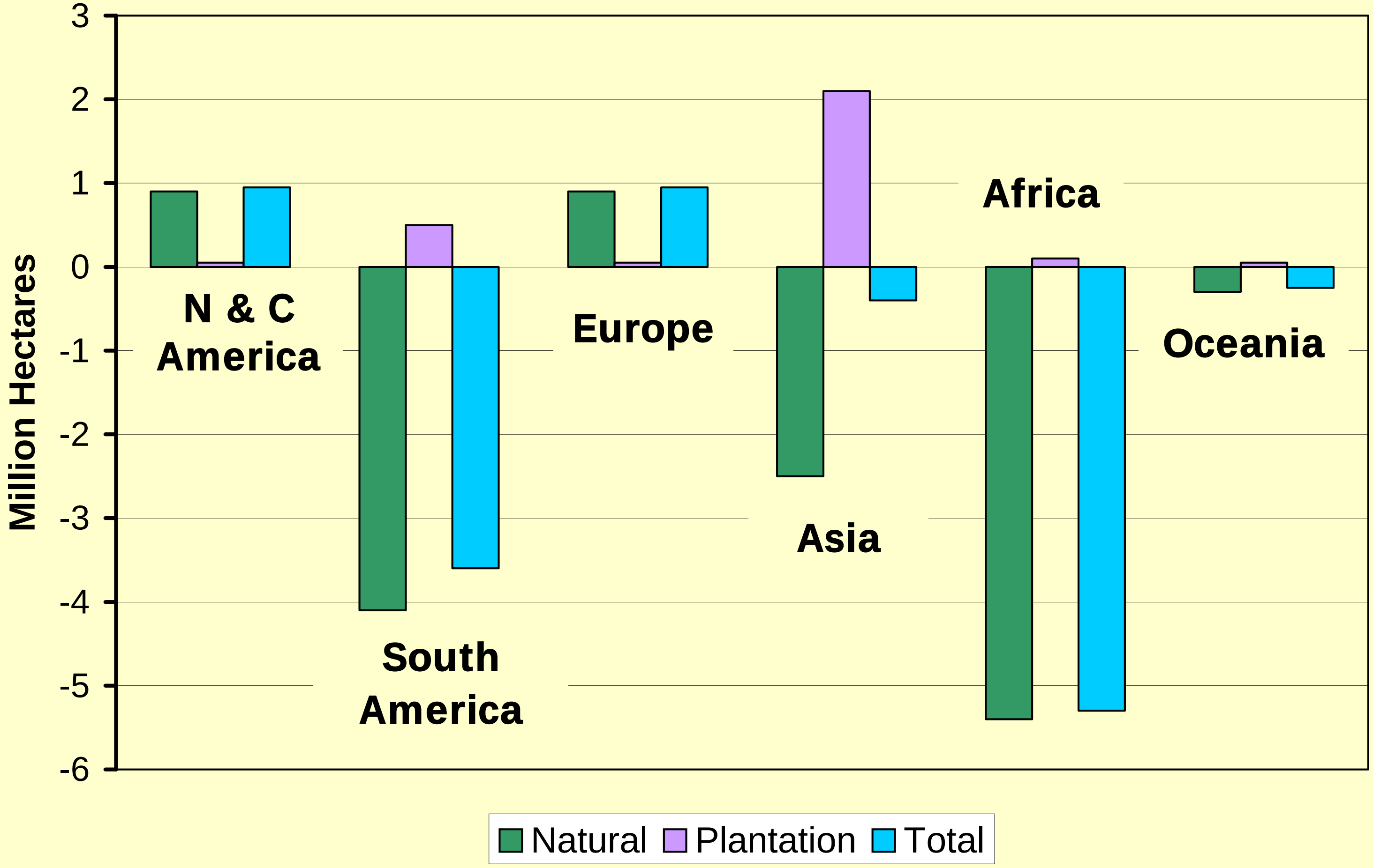
Annual change in forest area, 1990-2000, (million hectares)

	Deforestation	Increase in forest area	Net change in forest area
Tropics	-14.2	+1.9	-12.3
Non-tropics	-0.4	+3.3	+2.9
World	-14.6	+5.2	-9.4

Source: FAO Global Forest Resources Assessment 2000

Global deforestation of 14 million hectares/year > ½ of Idaho deforested every year.

Annual change in forest area, 1990-2000



Source: FAO Global Forest Resources Assessment 2000

Reasons behind deforestation

- Conversion to other land uses (0.4% of worlds' forests annually in the '90s)
  - Agricultural, including grazing
  - Urbanization
- Unsustainable silvicultural practices
  - Unmanaged harvesting
  - Poor regeneration
  - Fire, insects and diseases
  - Overharvesting fuelwood
- Poverty and overpopulation

Forest resources in N. America

- 80% of net annual increment harvested
- Forest volume increases ~3 million m^3 daily
- Forest area 1990 to 2000
  - USA +0.2%
  - Canada, no significant change

Sources: *State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000*

Forest resources in Europe

- Only 60% of wood grown is harvested
- Forest volume increases ~2 million m^3 daily
- Forestland increases by 500,000 hectares per year

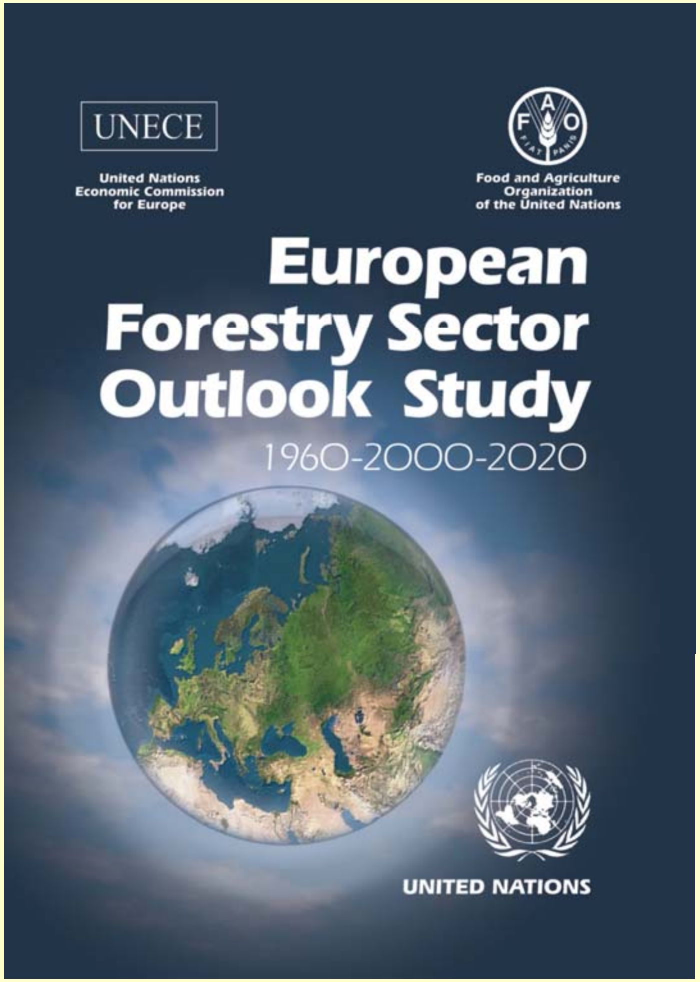
Sources: *State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000*

State of Europe's Forests

- Resources and area increasing
- Forest health and vitality are critical
- Productive functions maintained
- Biodiversity is a focus
- Plantations are only 3%
- Protective forests are 12%
- Socio-economic functions important

Source: Ministerial Conference on the Protection of Forests in Europe, 2003

New EFSOS forest conclusions



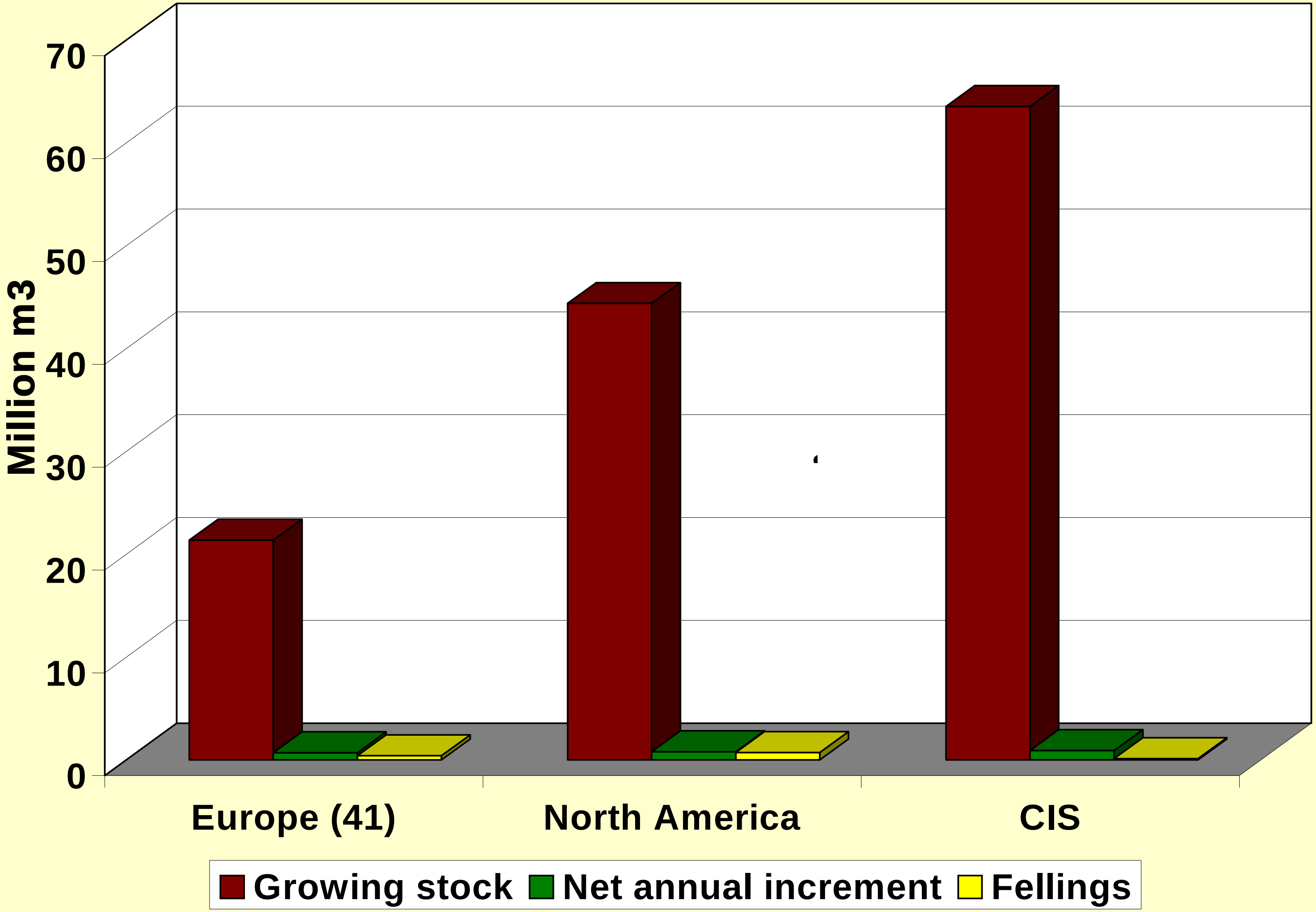
- Harvests < growth
- Growing stock rising
- Increased trade → local forest problem
- Problems in economic viability with falling prices

Forest resources in Russian Federation

- Only 16% of wood grown is harvested
- Forest volume increases ~3 million m^3 daily
- Forest area 1990 to 2000: no significant change

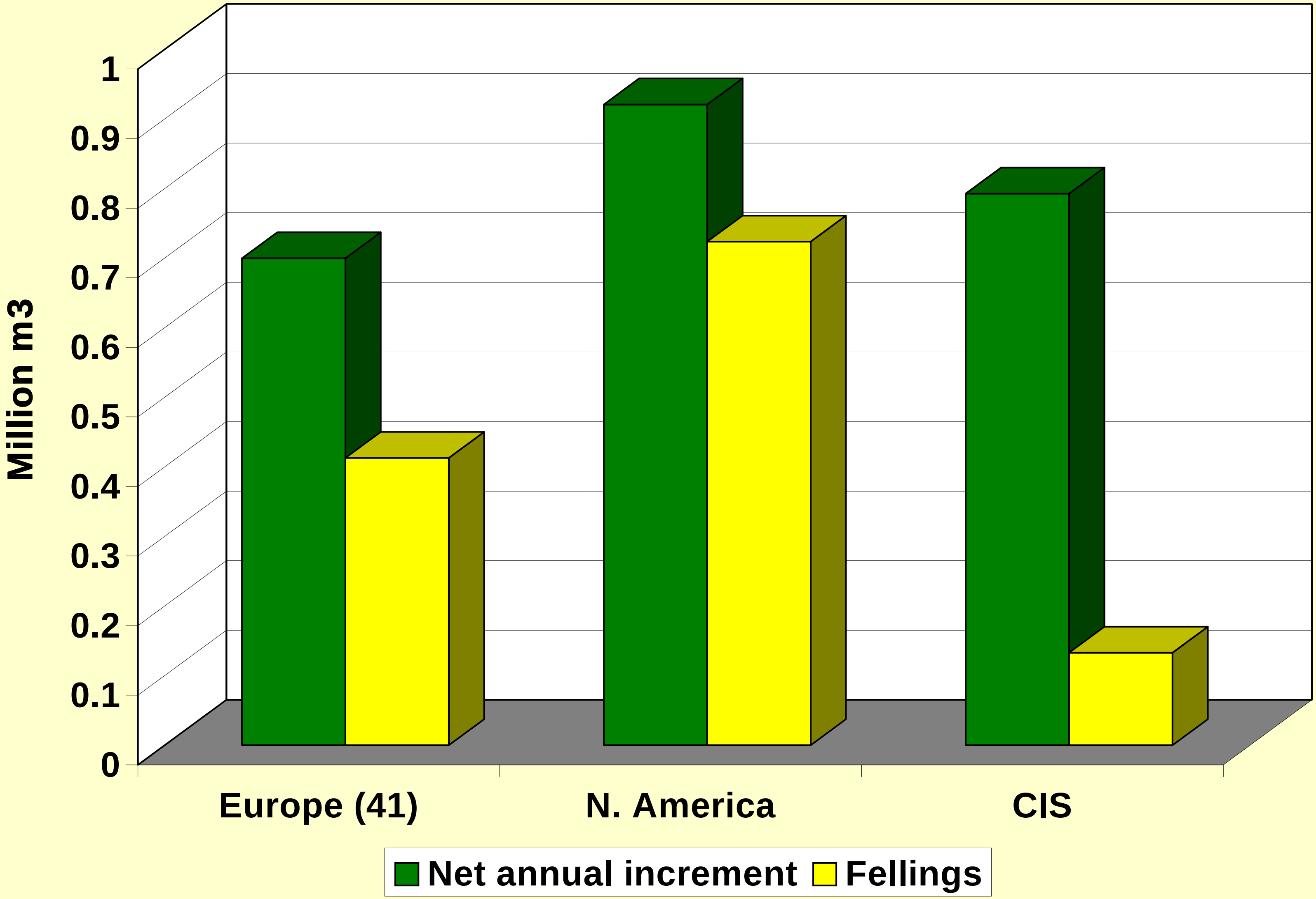
Sources: *State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000*

Forest resources: growing stock



Source: *Temperate and Boreal Forest Resources Assessment 2000*

Forest resources: NAI vs. fellings



Source: *Temperate and Boreal Forest Resources Assessment 2000*

Forest resources: NAI vs. fellings

	Fellings as % of NAI
North America	80%
Europe-41	60%
Western Europe	64%
Nordic countries	72%
Baltic countries	50%
Central & eastern Europe	56%
Russia	16%

Source: *Temperate and Boreal Forest Resources Assessment 2000*

Regional forest resource utilization

	Wood in forest (billion m3)	Roundwood harvest 2002 (million m3)	Roundwood harvest 2002 (%)
S & C America	117	439	0.4 %
Russia	89	192	0.2 %
N. America	60	678	1.1 %
Africa	46	613	1.3 %
Asia	35	1,005	2.9 %
Europe	28	395	1.4 %
Oceania	11	63	0.6 %

Note: *Not all "forest available for wood supply"*
Roundwood does not include chips. Therefore, %ages are gross.
Sources: *State of the World's Forests 2003, FAO Stat.*

Forest resources summary

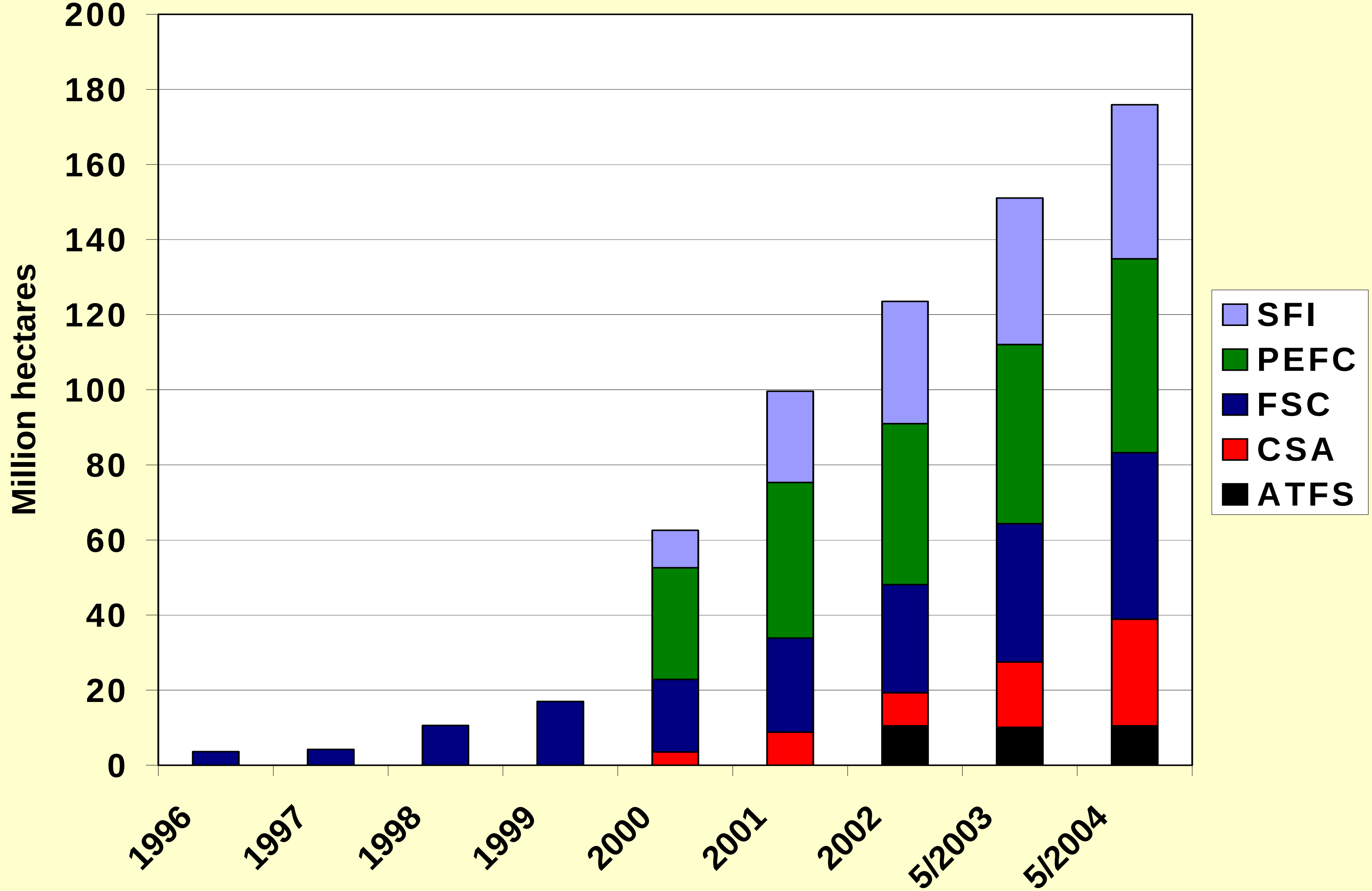
- Removals considerably below growth
- Wide variance in utilization rates of NAI
- Growing stock increasing in Europe
- Southern hemisphere plantations expanding
- Oversupply compared to demand for wood
- Increasing alternative demands on forests

III. Certified forest products markets

Certification of sustainable forest management

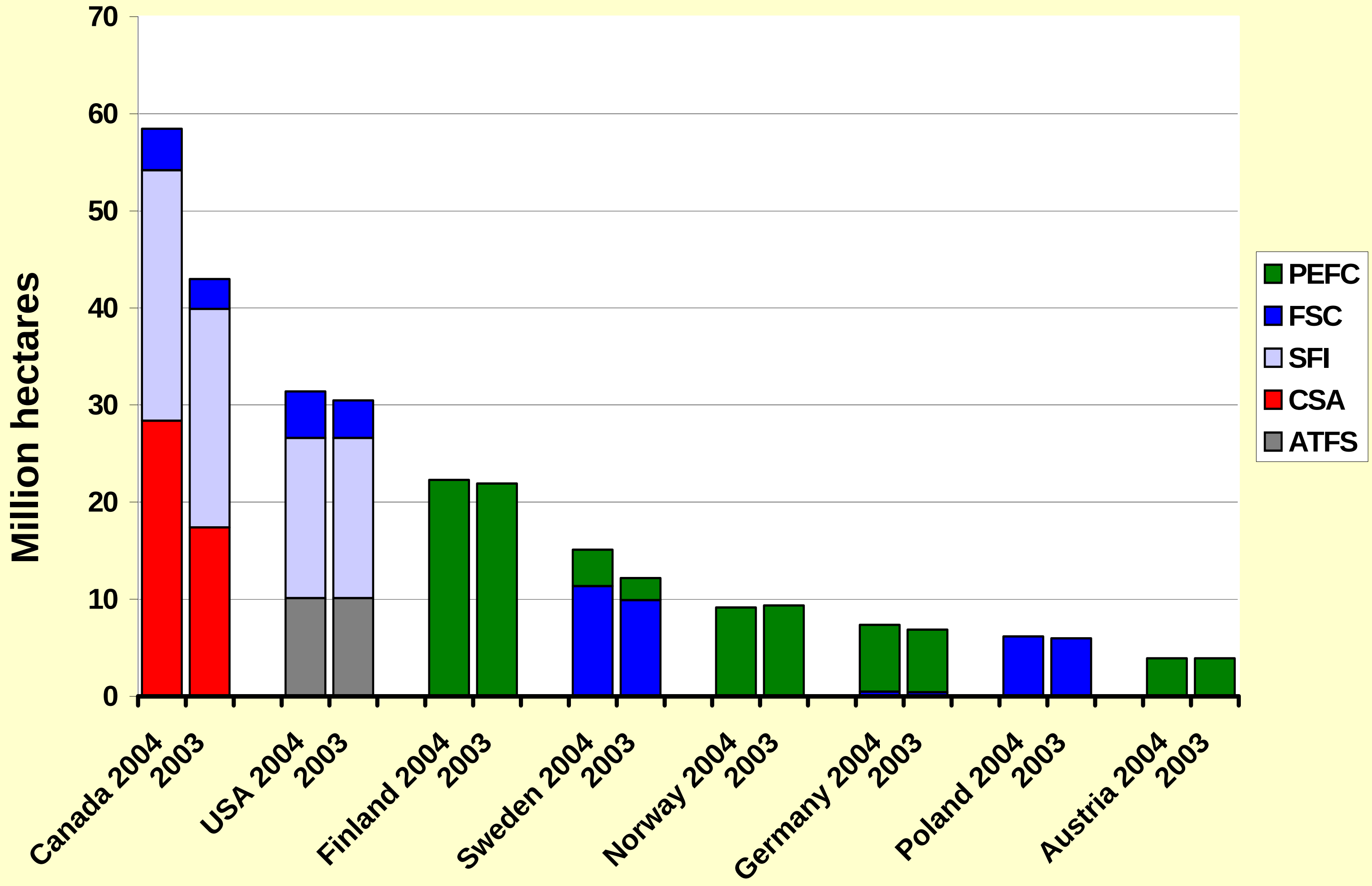
- Over 200 million hectares worldwide (5%)
- Over half of world's certified area in N. America
- Another 40% in Europe

Area of certified forests, 1996-2004



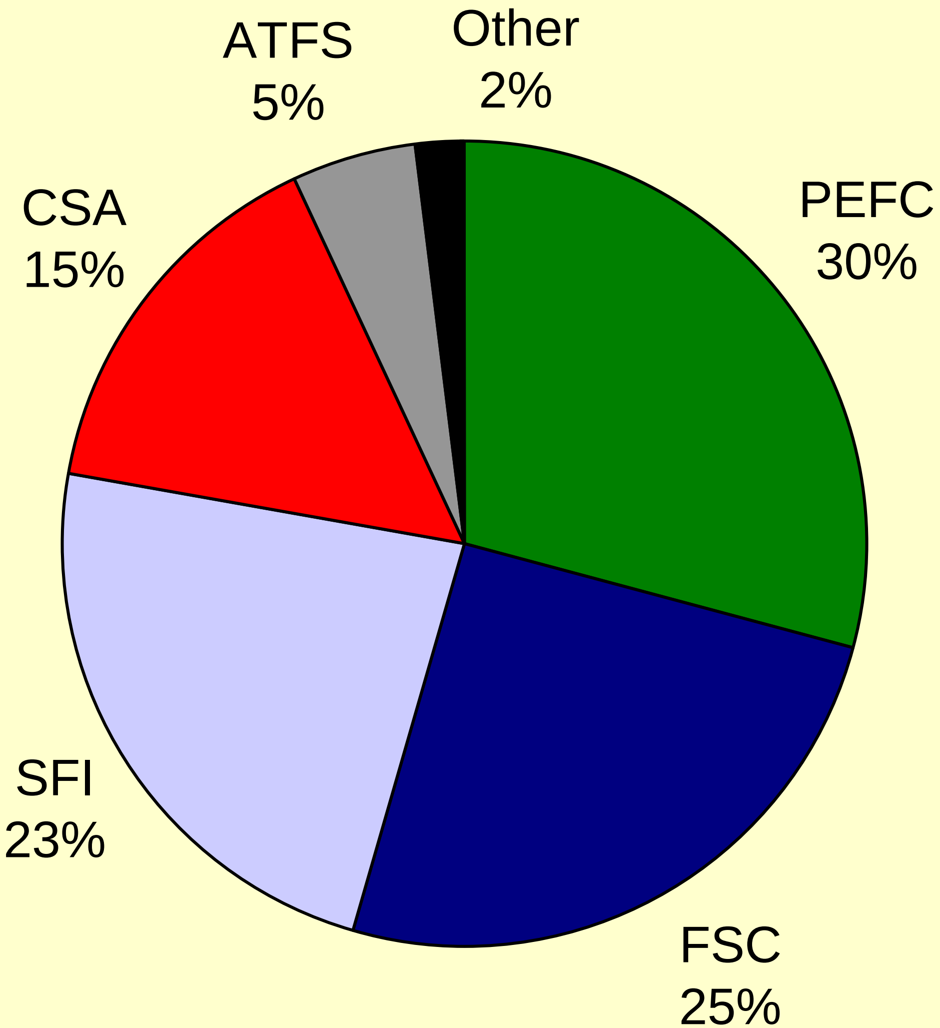
Source: *Forest Products Annual Market Review, 2003-2004*

Top 8 countries certified forest area, 2003 and 2004



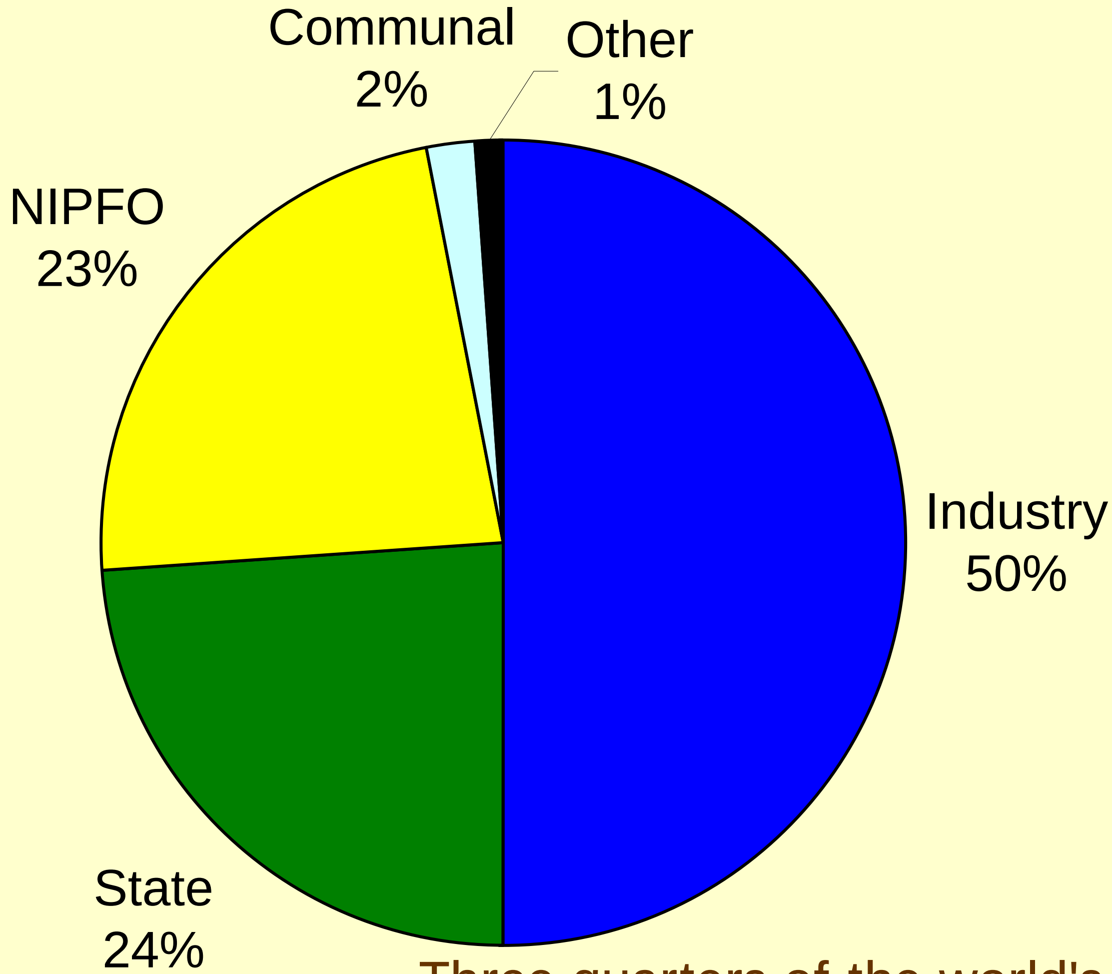
Source: *Forest Products Annual Market Review, 2003-2004*

Certification schemes' market share



Source: *Forest Products Annual Market Review, 2003-2004*

Certified forests by ownership type



Three quarters of the world's certified forests are privately owned or managed

Source: Savcore Indufor, 2005

Certified forest products markets

- Growing demand via wholesalers & retailers
- Demand boost by government procurement
- Private consumer demand remains minor
- Chain-of-custody key current development
- Most certified timber sold without label
  - Potential over 300 million m^3 (20% world roundwood production)
  - Lost opportunities for market promotion and PR

Source: *Forest Products Annual Market Review, 2003-2004*

Certified forest products markets

- Certification system conflicts discredit forest products in the marketplace
- Variety of schemes necessary for different stakeholders' interests
- Impacts of forest certification locally significant
- Difficulties in certifying natural tropical forests, but less so for tropical plantations
- Markets developing slower than forest certification

Source: Savcor Indufor, 2005

Certification

- Introduced to combat deforestation in tropics
- Most certified forests are temperate & boreal
- Therefore, not an instrument to combat deforestation, but to promote sustainable forest management
- Mutual recognition between schemes an issue
- Potential additional roles
  - Verification mechanism in Kyoto Protocol
  - Indication of source, but not proof of legality

Sources: Savcor Indufor, and UNECE/FAO, 2005

IV. Growing the market

Growing too much wood?

Not enough wood products demand?

What are the solutions?

Grow the wood markets !

- Guarantee that today's wood products meet consumers' needs
- Develop new products to meet evolving needs
- Develop new markets for wood products: substitute for non-renewable materials
- Promote wood culture outside N. America and Nordic Countries

How can we grow the wood markets?

- Build coordinated, international promotion programs
- Enlarge existing networks and coalitions
- Create favorable policy environments
- Promote public awareness of key issues and messages

Market effects of wood promotion policies

- Multi-country wood promotion essential to enlarge wood's market share
- Promotion must be cost justified
- Identify and know target markets: cultural and technical dimensions
- Fund raising a problem in fragmented industry
- Key elements: competence, neutrality, credibility, resources

Source: UNECE/FAO *Forest Products Annual Market Review, 2001-2002*

UNECE Timber Committee recommendations

- Develop new products to expand existing markets
- Establish new markets to meet consumers' needs
- Build international cooperation in promoting environmental advantages of sustainable wood production
- Promote wood culture

Discussion and Questions

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