cepi confederation of european paper industries

# Pulp and paper markets and forecasts

Bernard de Galembert

# Top pulp producers - 2006

| | Mt | 06/05 | | Mt | 06/05 |
|---|---|---|---|---|---|
| World | 192.3 | +1.9% | Indonesia | 5.7 | +3.7% |
| USA | 53.2 | +0.5% | Chile | 3.6 | +6.5% |
| Canada | 23.7 | -7.2% | India | 3.2 | -3.0% |
| China | 18.2 | +11.3% | Germany | 2.9 | +2.0% |
| Finland | 13.1 | +17.4% | France | 2.5 | -3.8% |
| Sweden | 12.2 | +1.1% | S. Africa | 2.3 | +1.3% |
| Brazil | 11.3 | +7.8% | Norway | 2.3 | -6.3% |
| Japan | 10.9 | +0.4% | Portugal | 2.1 | +3.8% |
| Russia | 7.4 | +1.4% | Spain | 2.0 | +3.3% |

**Source: RISI, CEPI**

# Top paper producers - 2006

| | Mt | 06/05 | | Mt | 06/05 |
|---|---|---|---|---|---|
| World | 382.0 | +4.3% | Italy | 10.0 | +0.1% |
| USA | 84.1 | +1.7% | France | 10.0 | -3.1% |
| China | 65.0 | +16.1% | Indonesia | 8.9 | +8.0% |
| Japan | 31.1 | +0.5% | Brazil | 8.7 | +1.5% |
| Germany | 22.7 | +4.5% | Russia | 7.4 | +5.3% |
| Canada | 18.2 | -6.8% | India | 7.0 | +6.2% |
| Finland | 14.2 | +14.2% | Spain | 6.4 | +11.5% |
| Sweden | 12.1 | +2.5% | UK | 5.6 | -7.5% |
| South Korea | 10.7 | +1.5% | Austria | 5.2 | +5.3% |

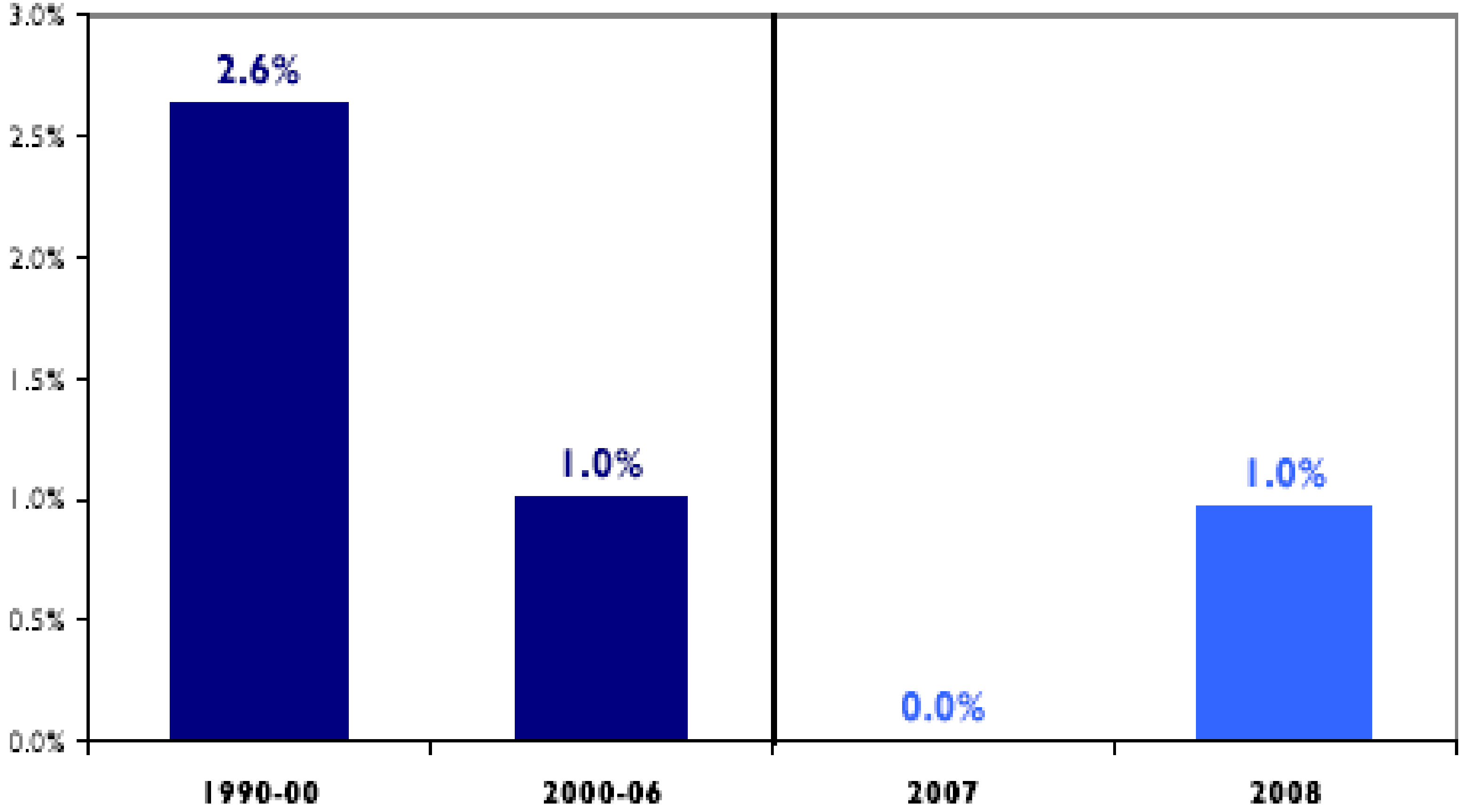
**Source: RISI, CEPI**

# Paper consumption - 2006

| | Mt | 06/05 | | Mt | 06/05 |
|---|---|---|---|---|---|
| World | 381.8 | +4.3% | Spain | 7.9 | +6.5% |
| USA | 90.5 | +1.1% | Brazil | 7.7 | +5.1% |
| China | 66.0 | +11.3% | India | 7.6 | +6.6% |
| Japan | 31.5 | +0.2% | Canada | 7.1 | -2.2% |
| Germany | 20.9 | +5.8% | Mexico | 6.7 | +5.6% |
| UK | 12.3 | -1.4% | Russia | 6.0 | +10.5% |
| Italy | 11.7 | -0.3% | Indonesia | 5.6 | +1.8% |
| France | 10.9 | -0.4% | Taiwan | 4.8 | -3.9% |
| S. Korea | 8.6 | +2.9% | Thailand | 4.2 | +20.8% |

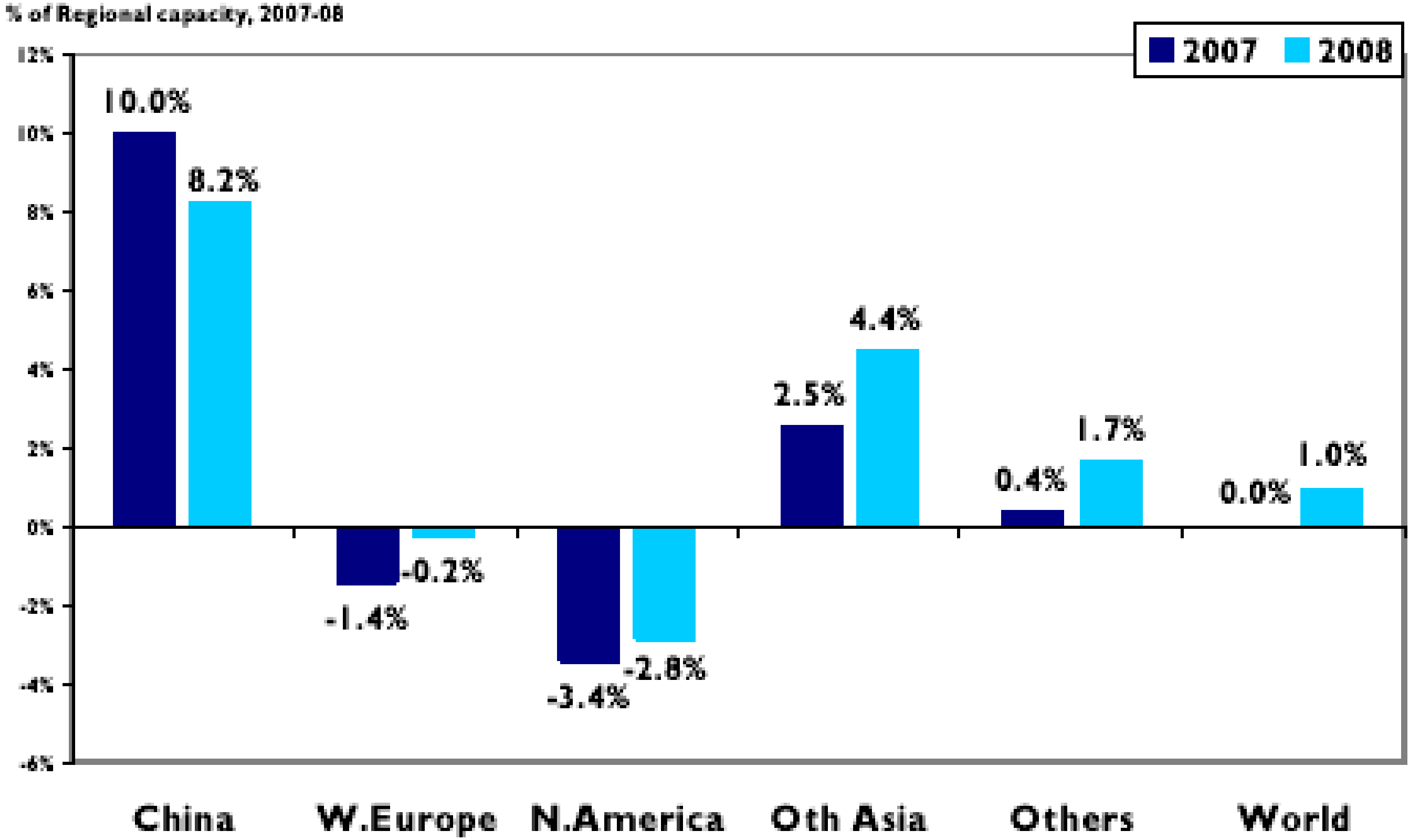
**Source: RISI, CEPI**

# Graphic papers
# World capacity growth



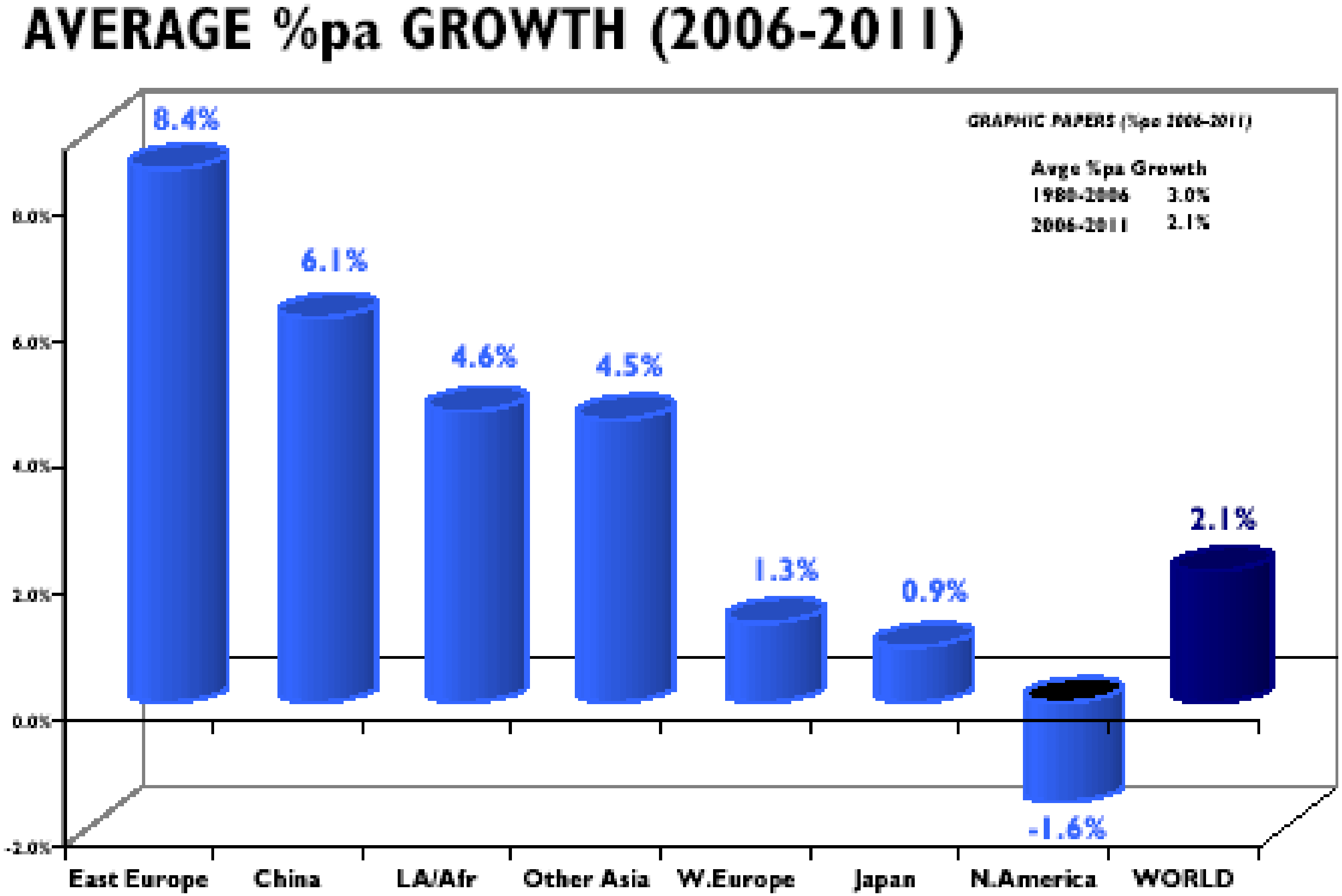

Source: EMGE

# Graphic papers
# Net capacity increase by region




Source: EMGE

# Graphic papers
# Demand forecast by region



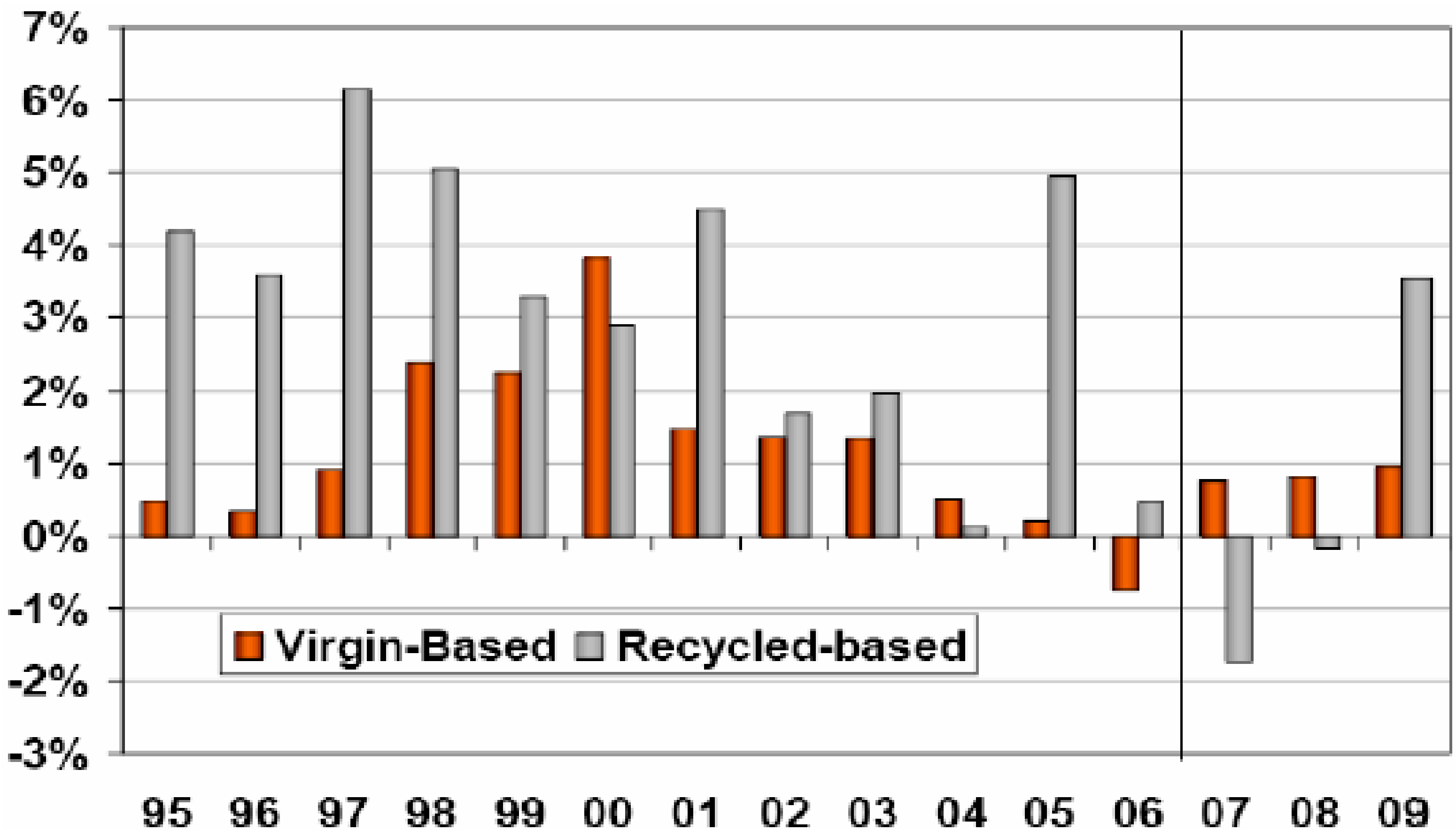

Source: EMGE

# Containerboard
# Main trends and drivers

- **Global consumption was approximately 98 Mt in 2006**
- **The US has been the single largest consumer of containerboard, accounting for over 25% of the consumption**
- **China's consumption will continue to grow and is expected to overtake that of the US in the coming years**
- **Drivers and trends: food & beverage consumption, home delivery of products from increased on-line shopping, economic and industry activity**

# Containerboard
# Western Europe capacity development

## Yearly increase



# Paper production by grade - 2006

| Cartonboard | Mt | 06/05 |
|---|---|---|
| World | 49.5 | +4.7% |
| Asia | 17.9 | +9.9% |
| Europe | 14.4 | +3.6% |
| N. America | 14.9 | +0.4% |
| S. America | 1.8 | +2.1% |
| Africa | 0.3 | 0.0% |
| Australasia | 0.2 | +4.7% |

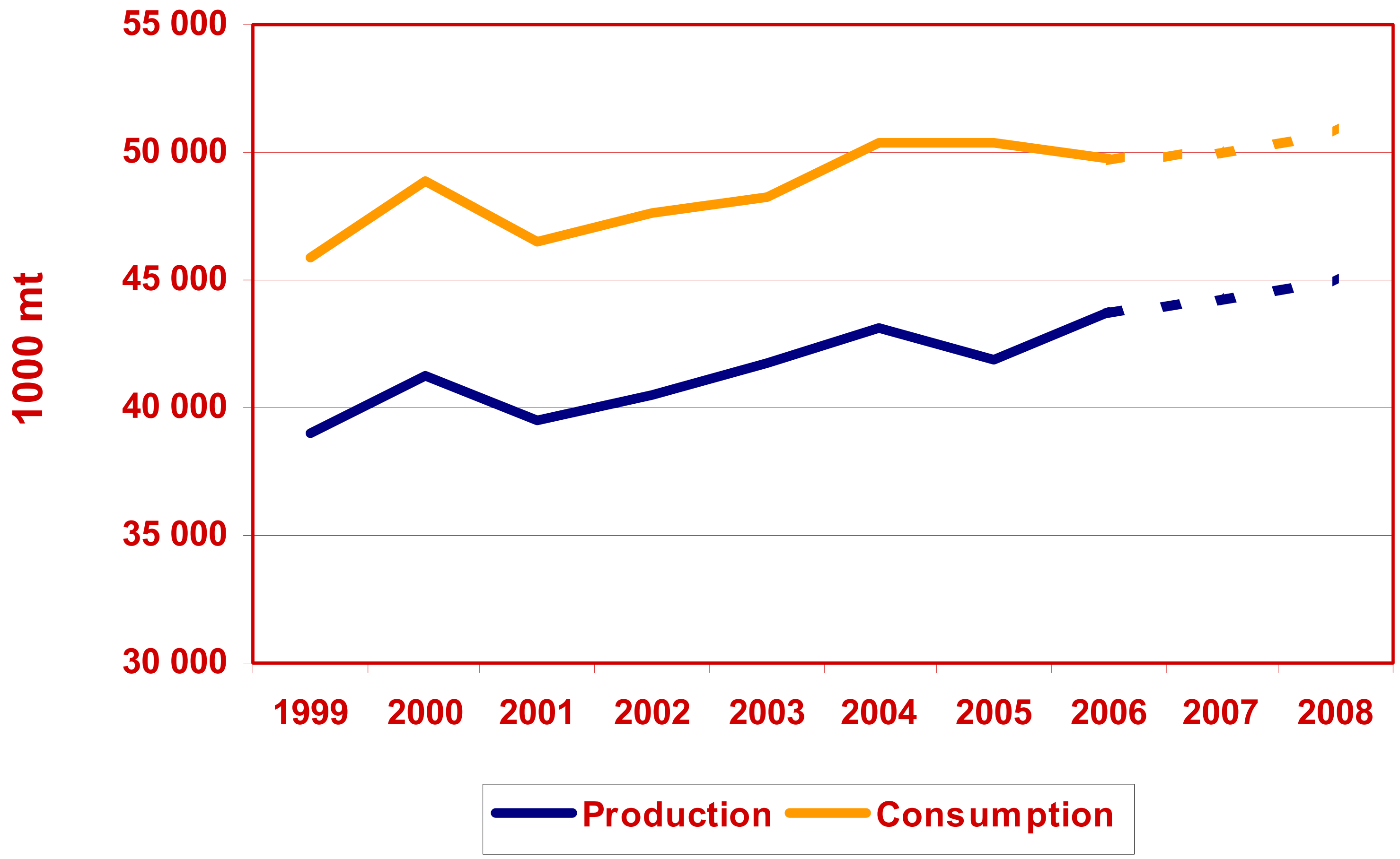
| Total P&B | Mt | 06/05 |
|---|---|---|
| World | 382.0 | +4.3% |
| Asia | 140.8 | +9.0% |
| Europe | 113.2 | +3.2% |
| N. America | 102.2 | +0.1% |
| S. America | 18.3 | +2.7% |
| Africa | 4.2 | +2.9% |
| Australasia | 3.3 | -2.6% |

**Source: RISI**

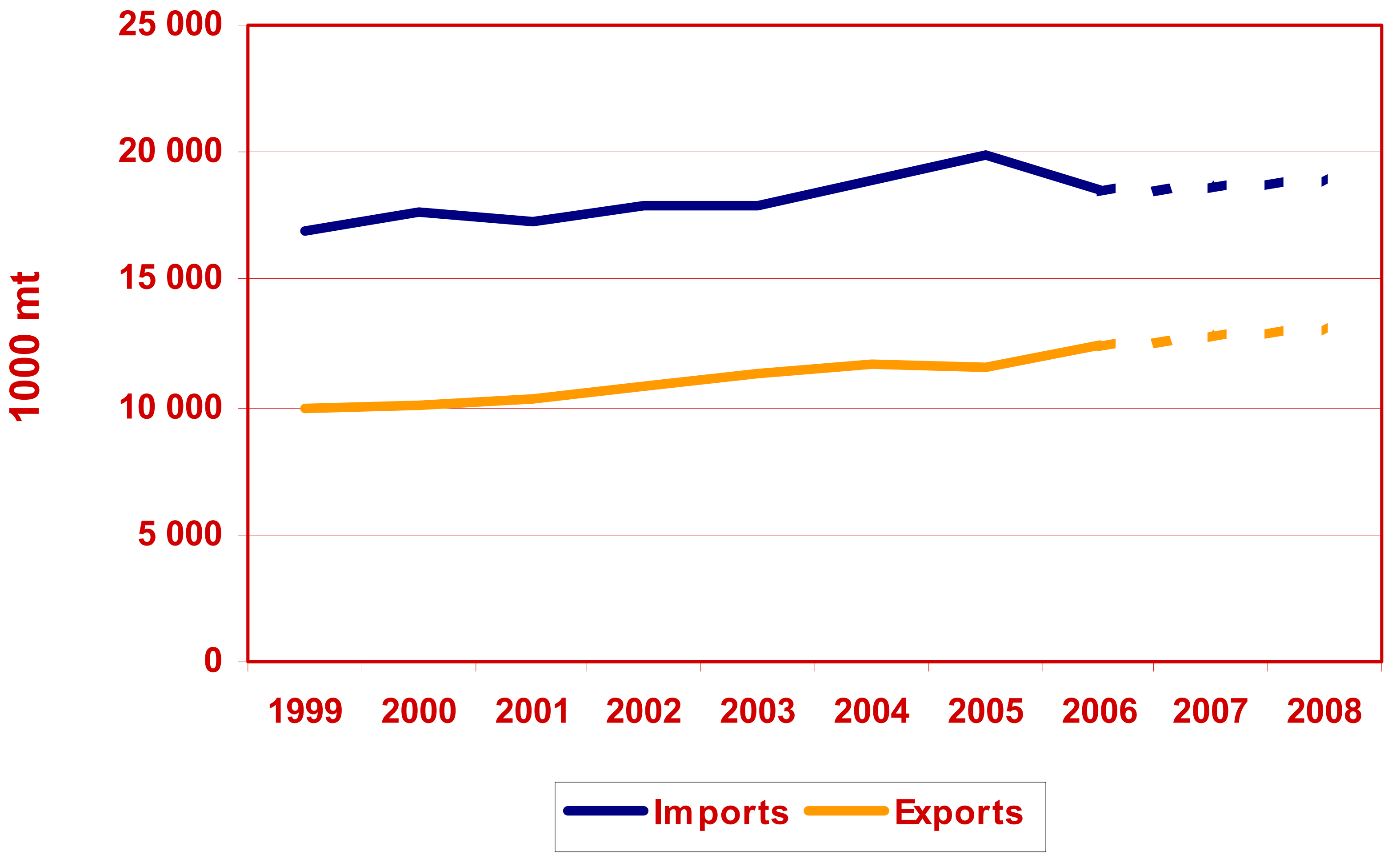
# Cartonboard
# Main markets and drivers

- Food packaging accounted for largest share: 18 Mt in 2006
- Single biggest sector is pharmaceutical industry (10%), followed by dry foods, frozen foods and tobacco
- Consumption would rise by a yearly average of 5% through 2012 based largely on growing demand in non-food sector
- Drivers and trends: retailers' behaviour towards sustainability and certification, multimedia, shorter brandlife – constant need for new designs and graphics

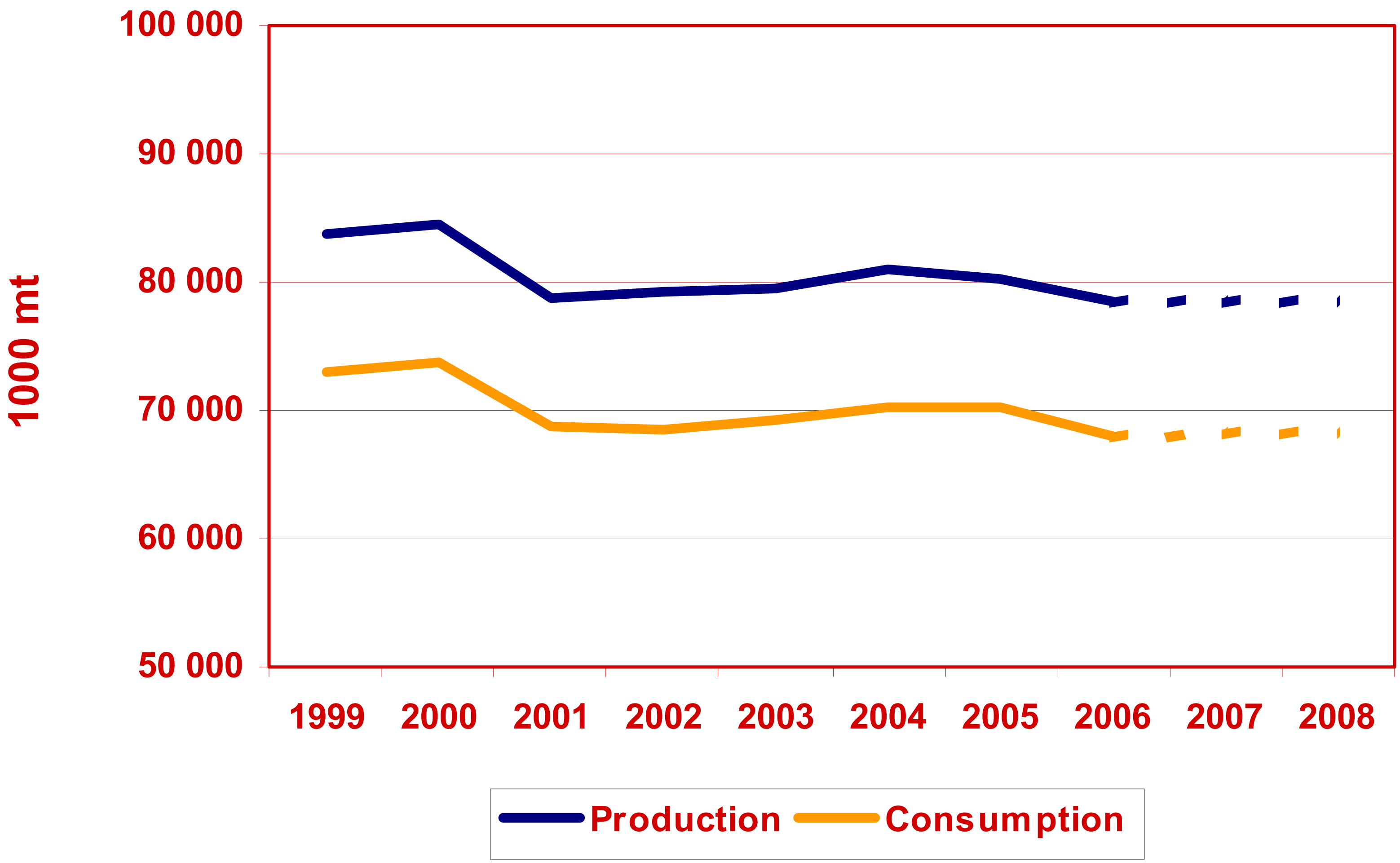
# Wood Pulp Europe
# Production and Consumption



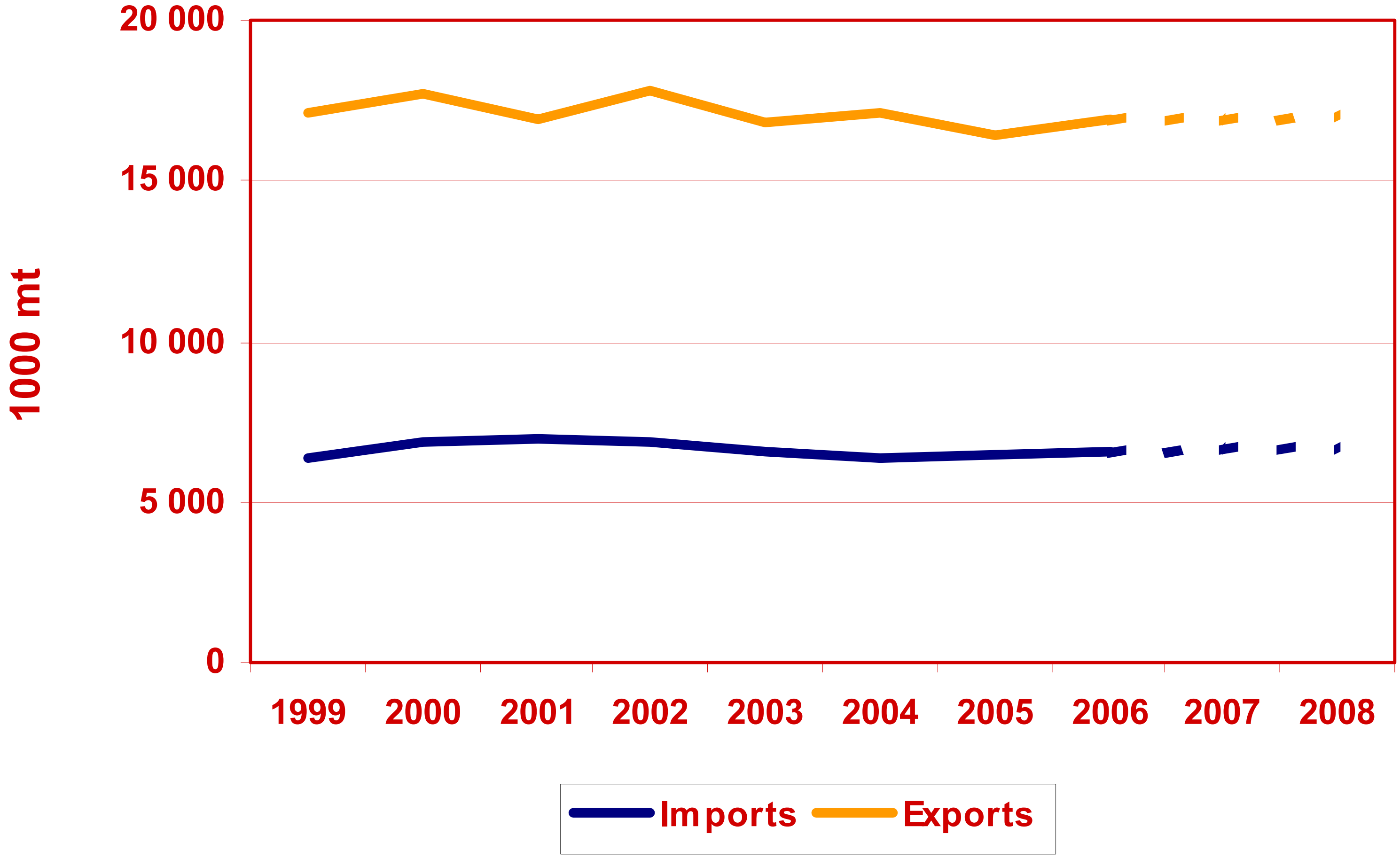
# Wood Pulp Europe Imports and Exports



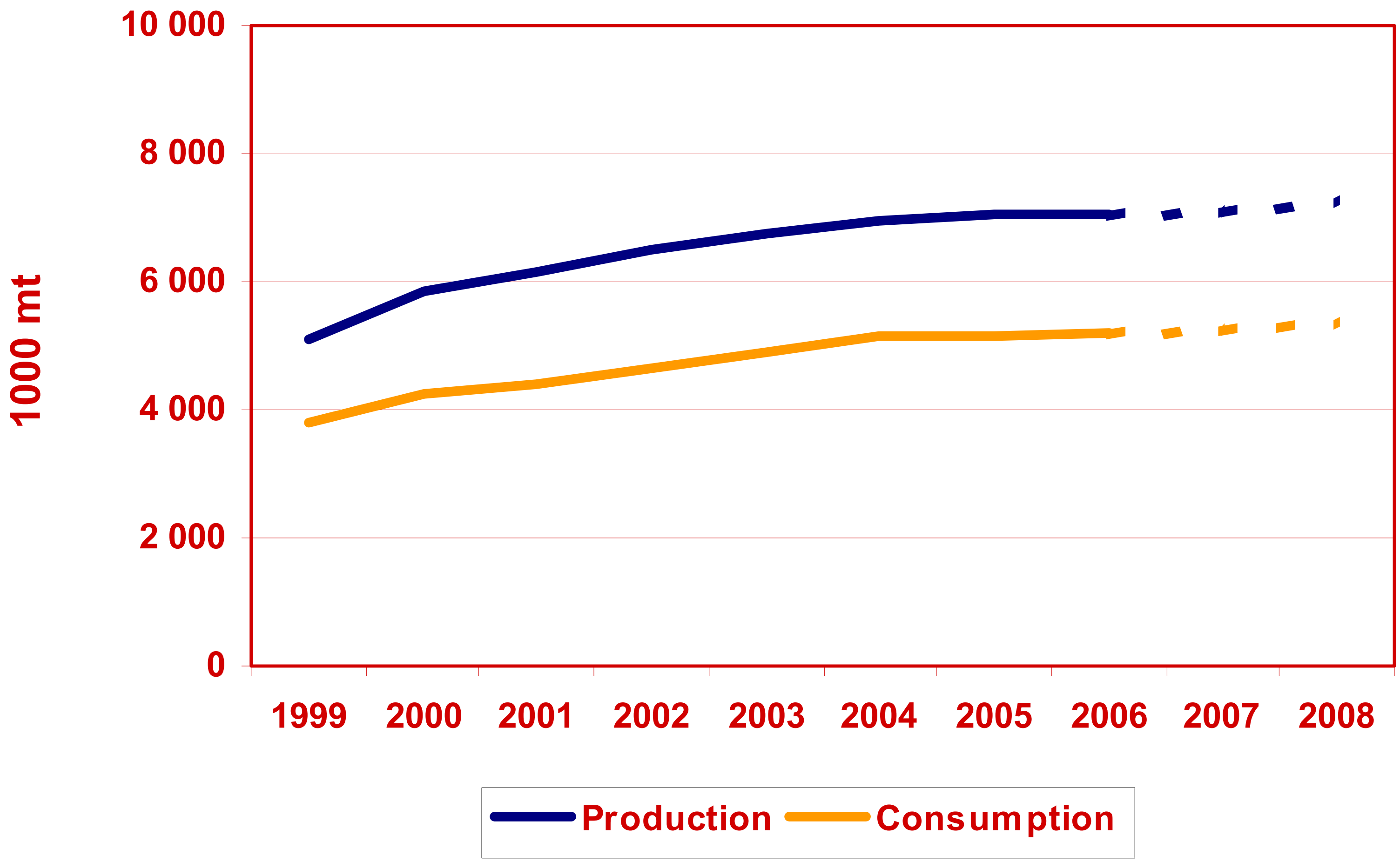
# Wood Pulp North America Production and Consumption



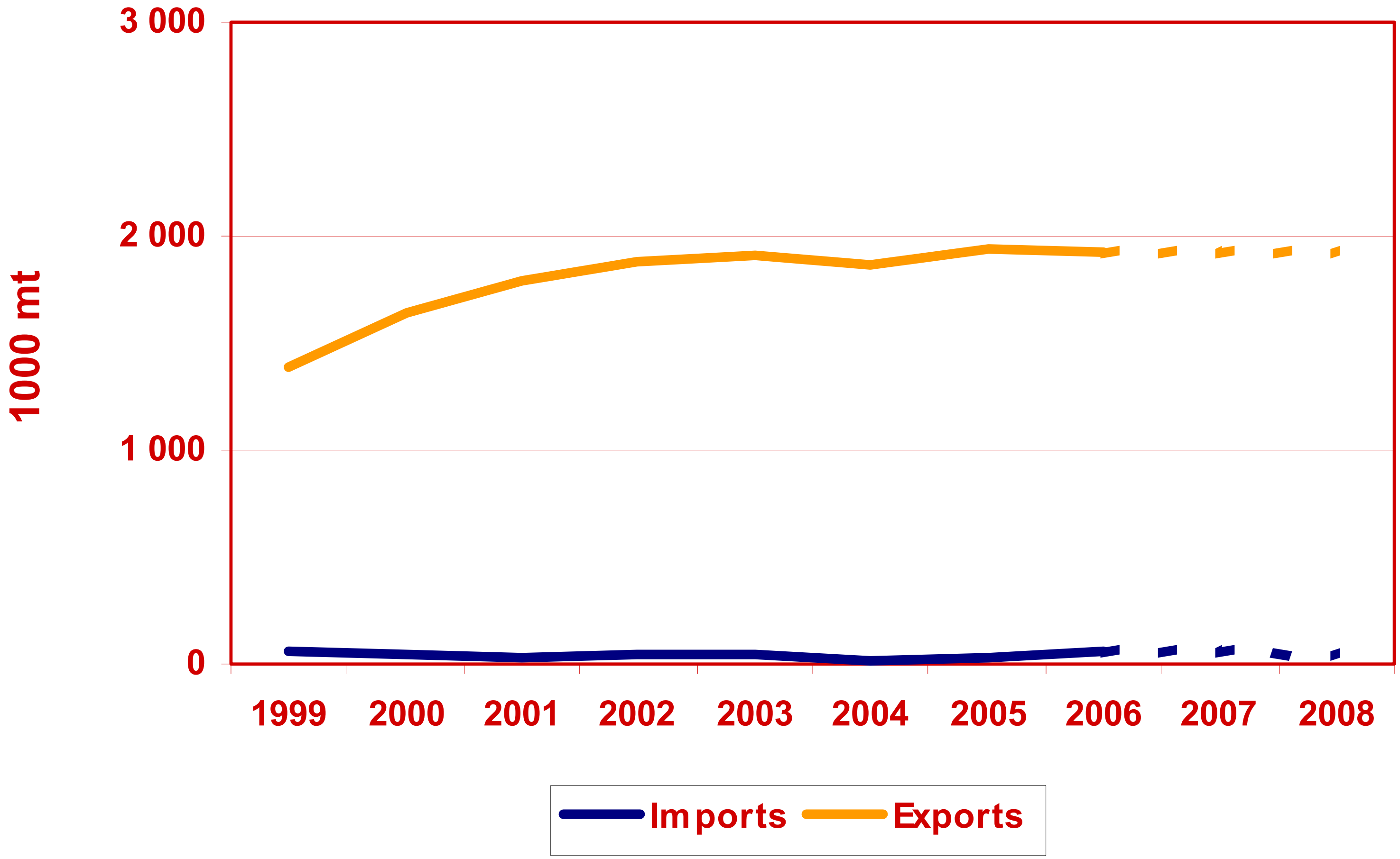
# Wood Pulp North America Imports and Exports



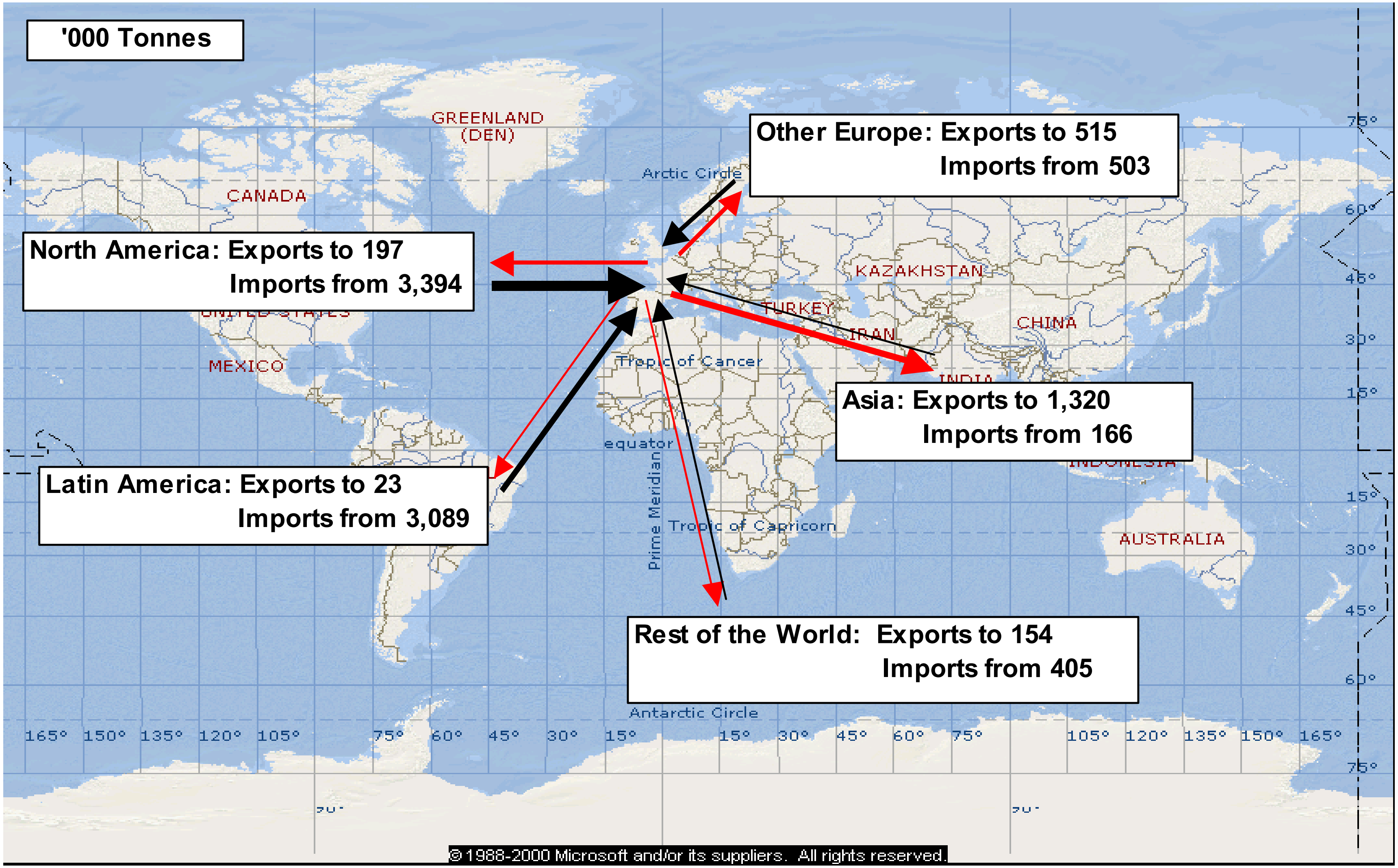
# Wood Pulp Russian Federation Production and Consumption



# Wood Pulp Russian Federation Imports and Exports



# Trade Flows of Pulp to and from CEPI Countries in 2006

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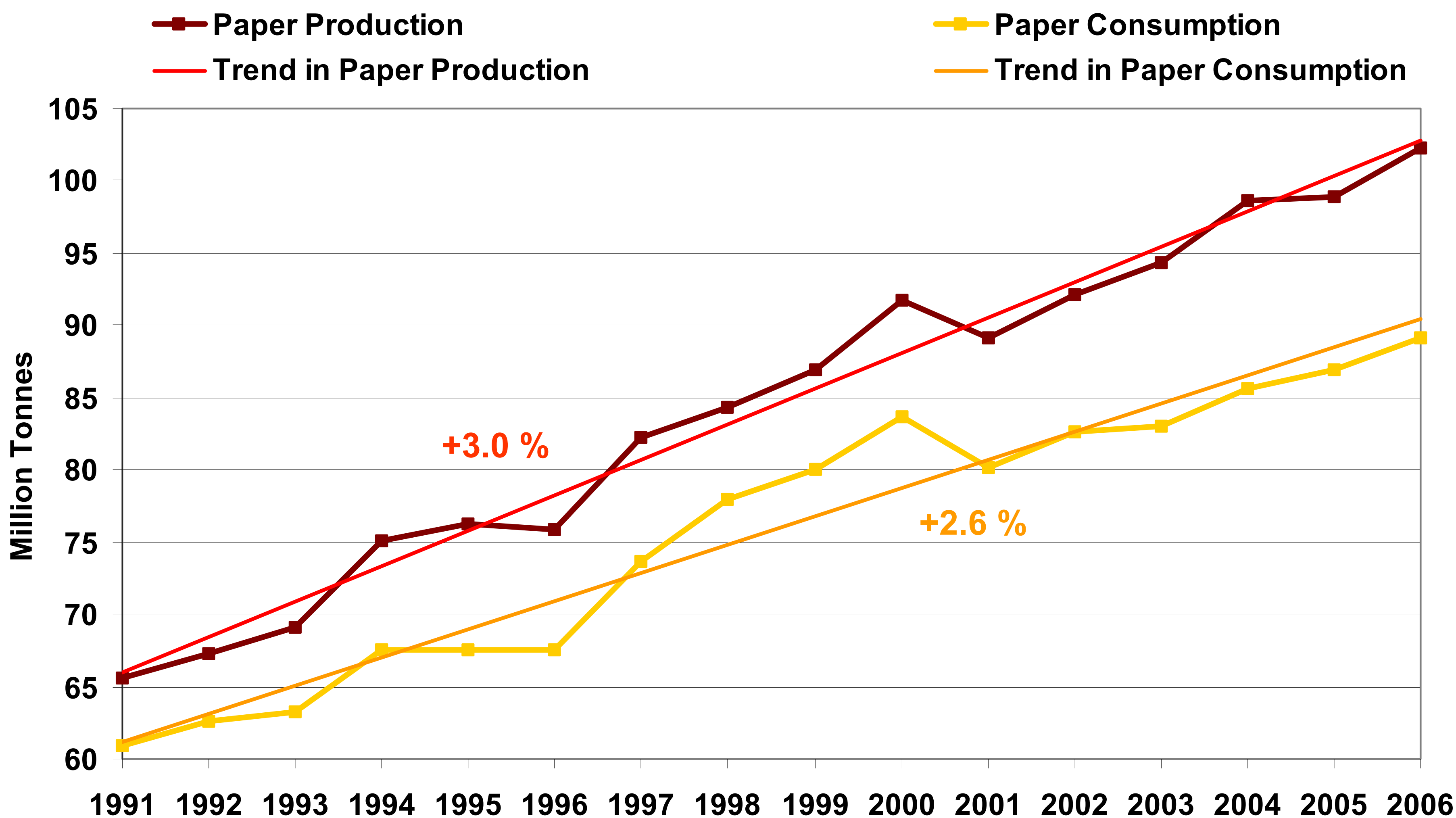
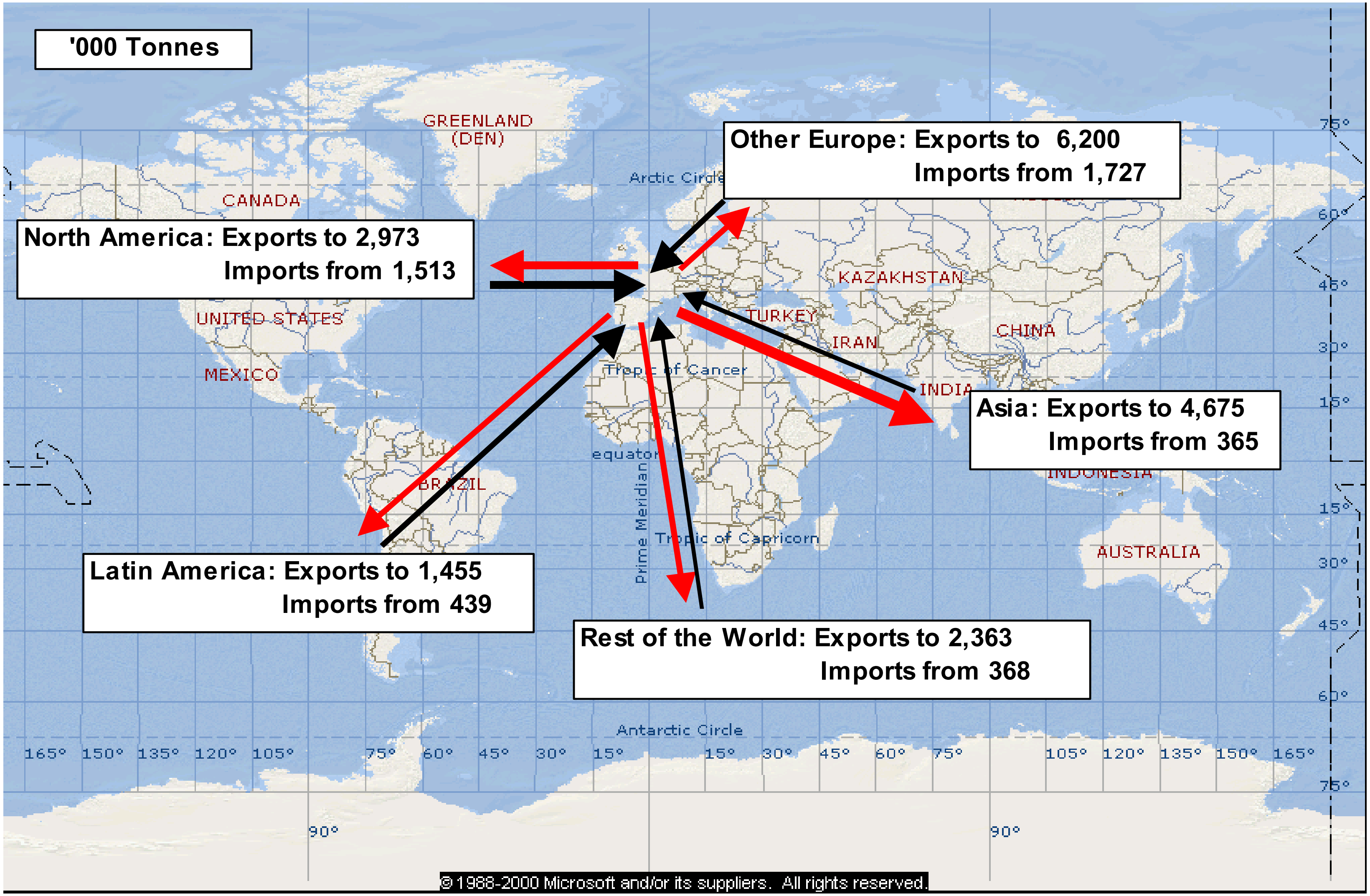
# Paper Production and Consumption in CEPI Countries 1991 - 2006



# Trade Flows of Paper to and from CEPI Countries in 2006



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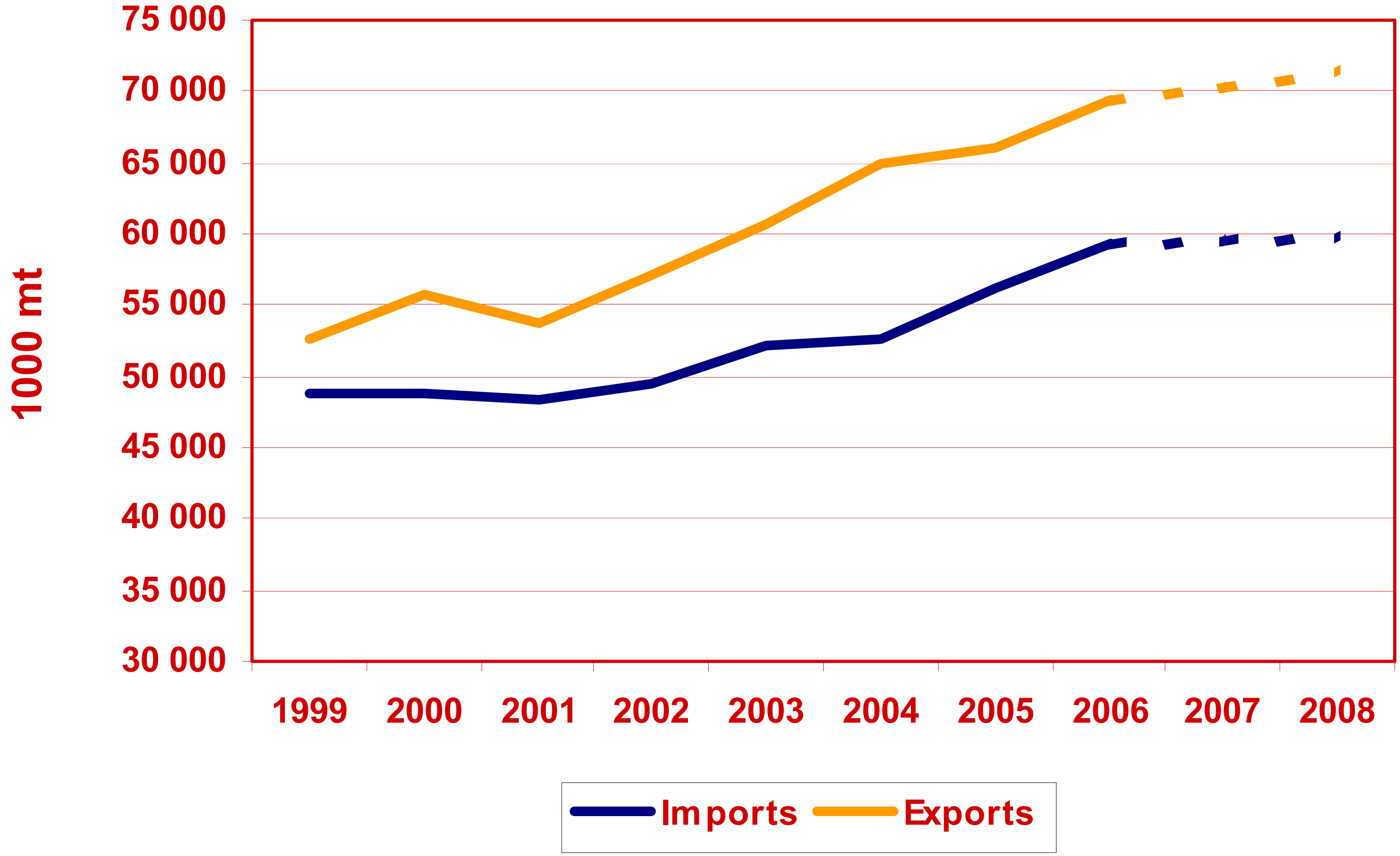
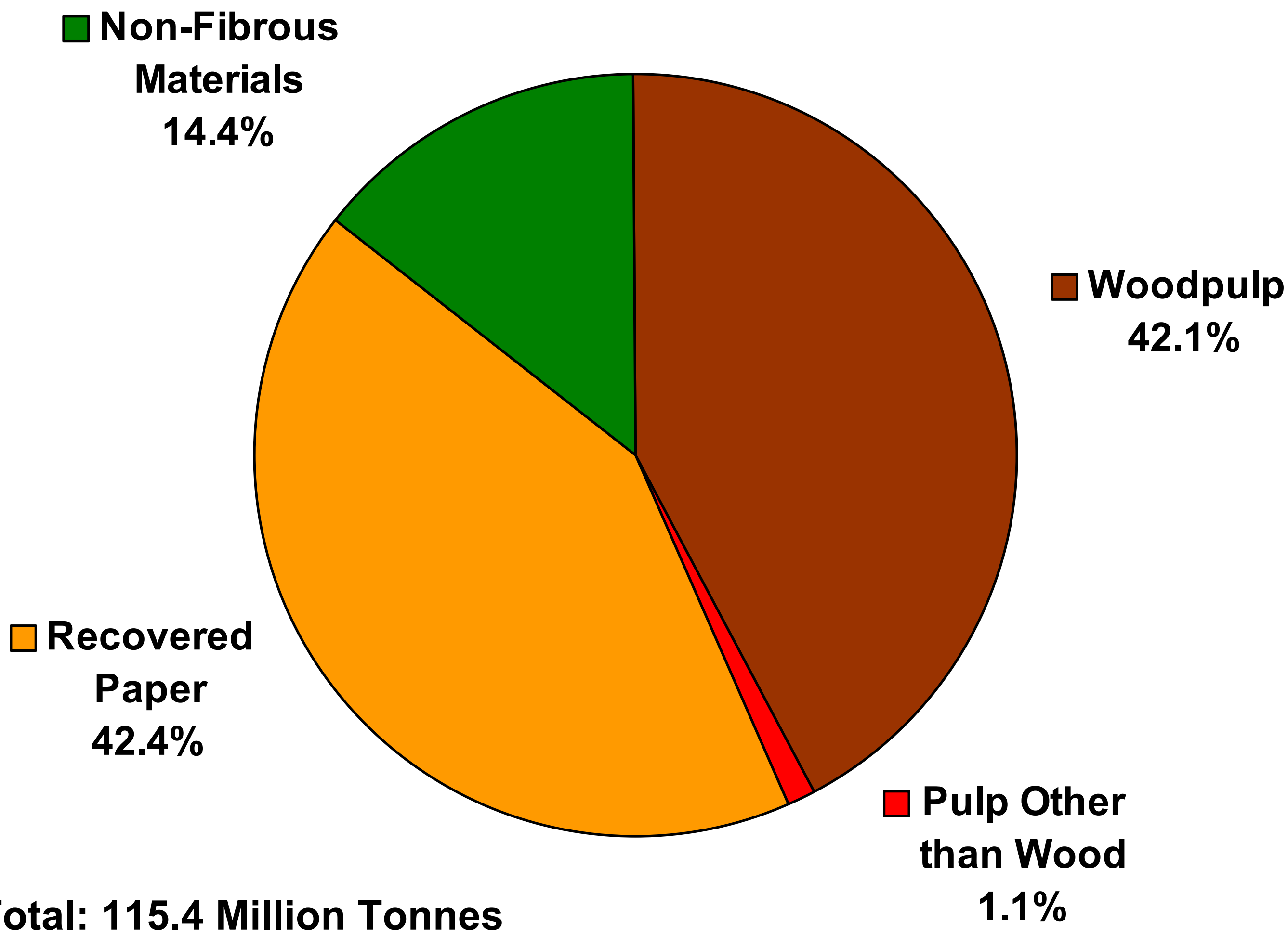
# Paper and paperboard Europe Imports and Exports



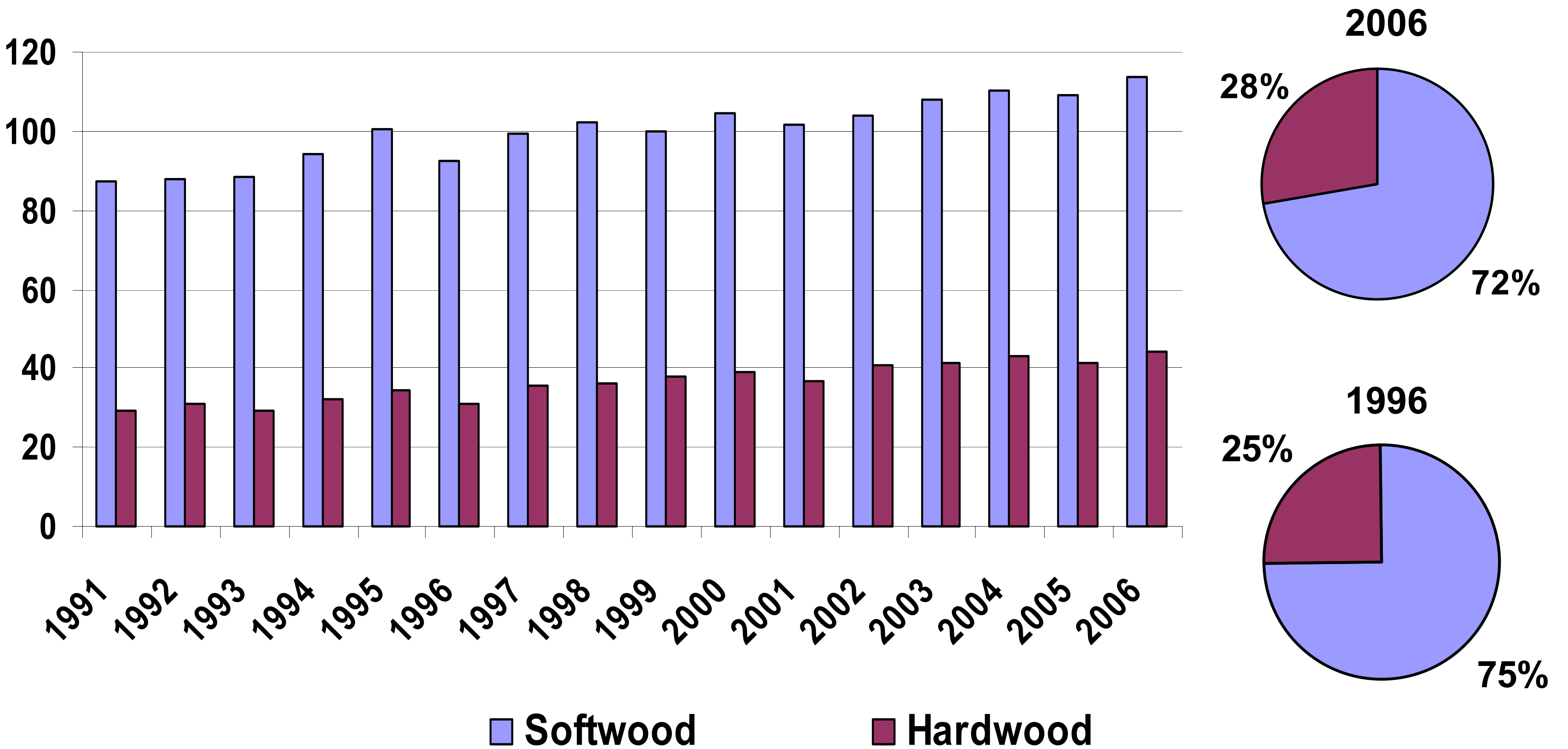
# Raw Materials in Papermaking in CEPI Countries 2006



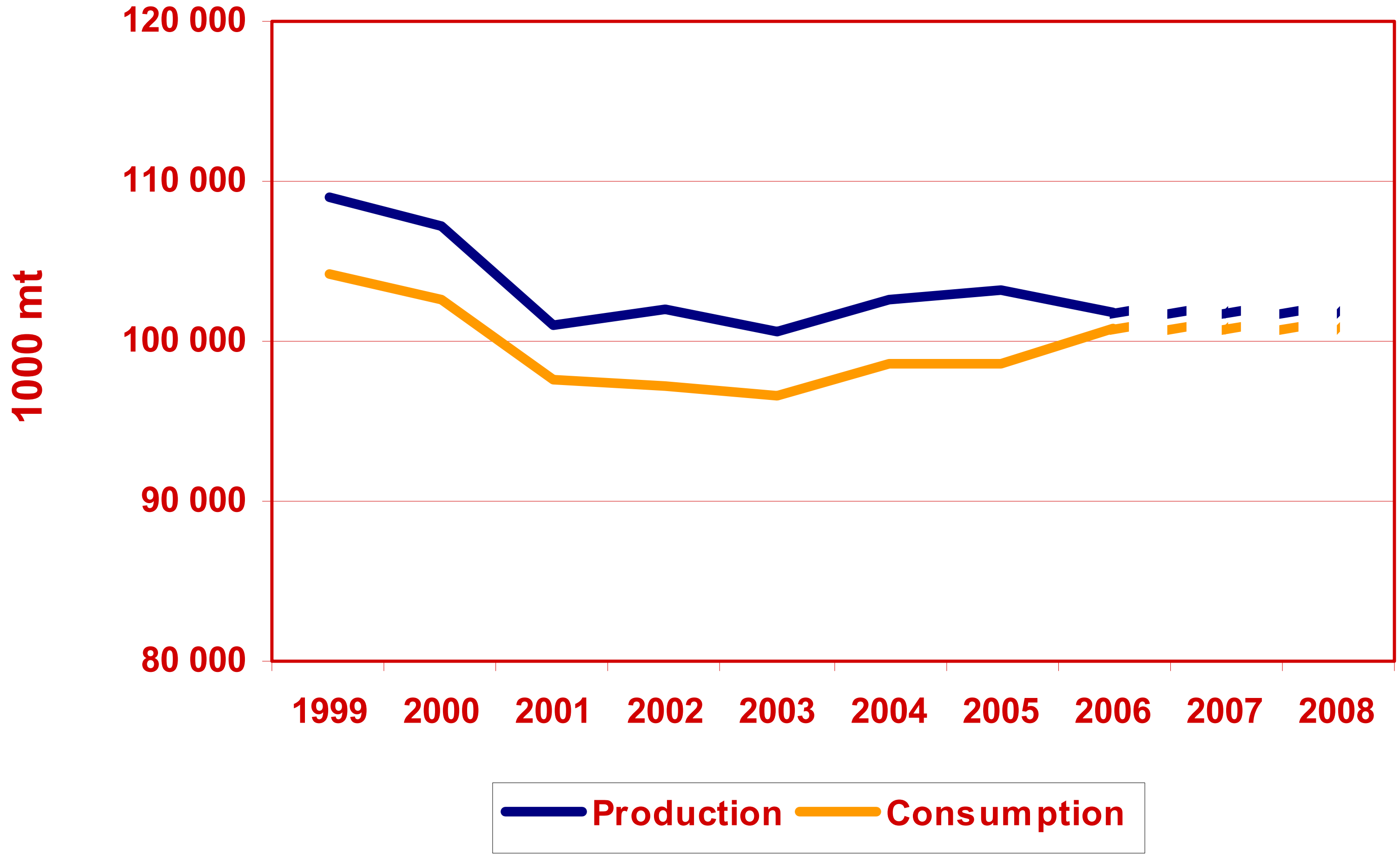

Total: 115.4 Million Tonnes

# Wood consumption for pulp manufacturing in CEPI Countries 2006

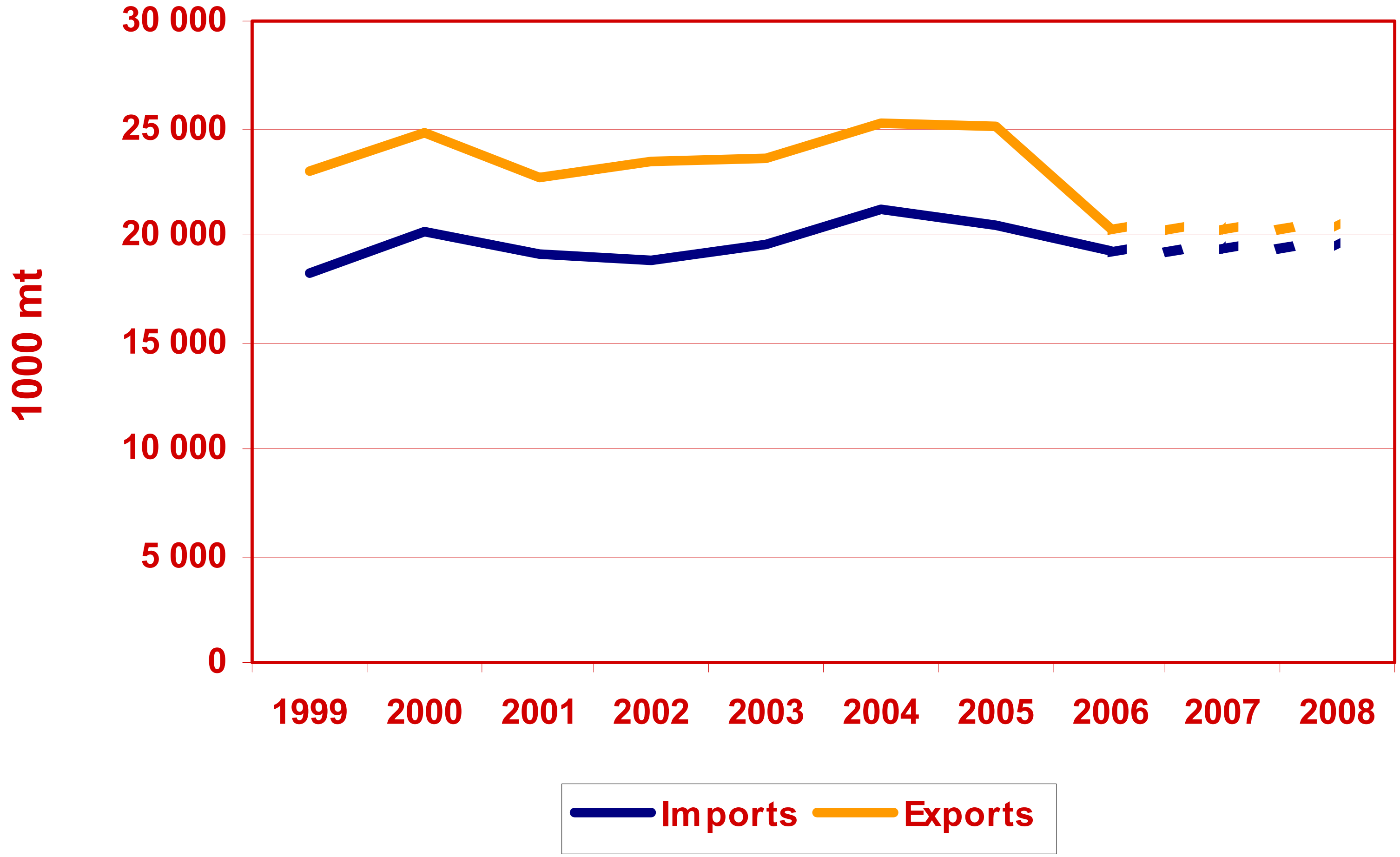
**Total: 158 Million Cubic metres in 2006 / +28% over last 10 years**



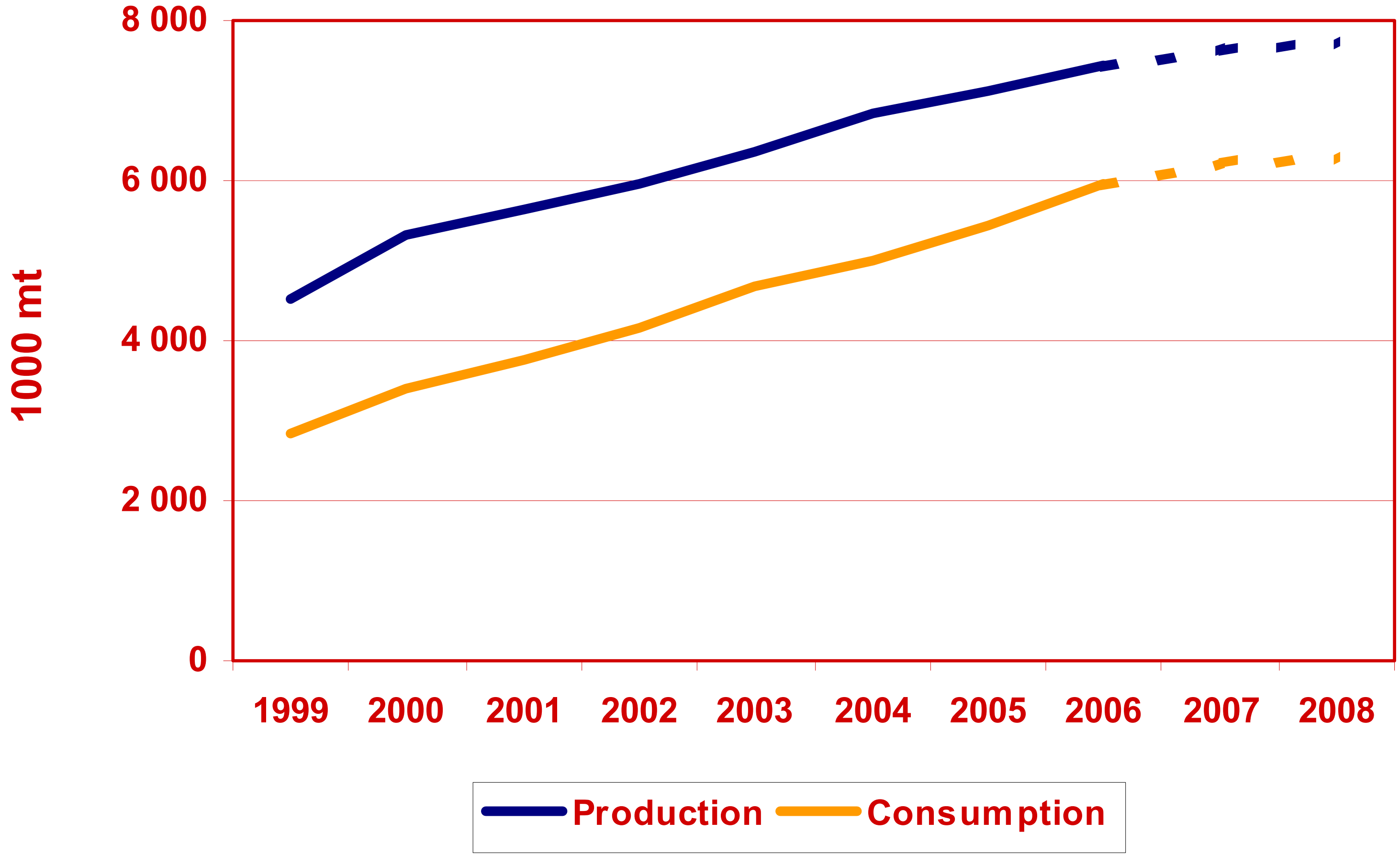
# Paper and paperboard North America Production and Consumption



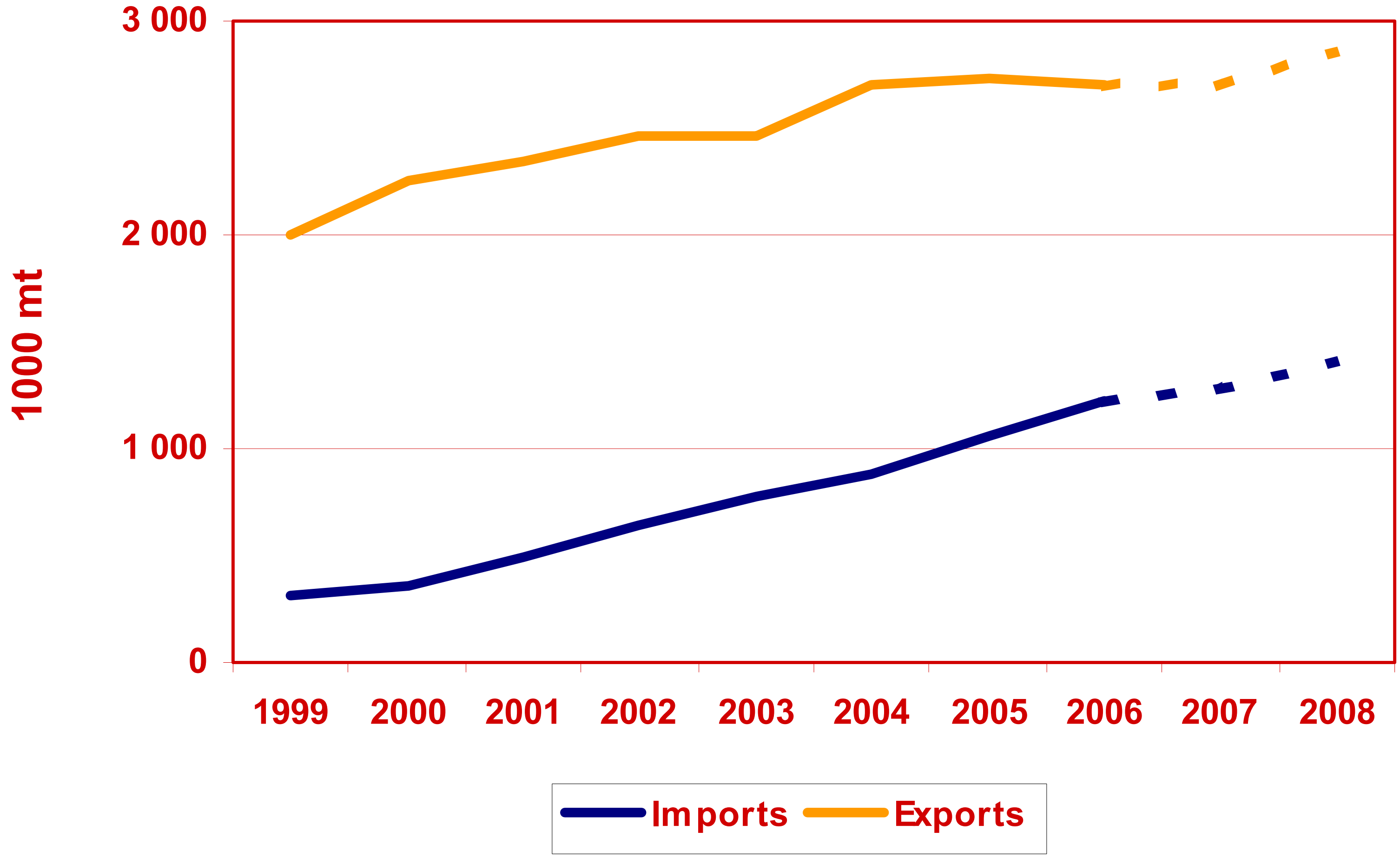
# Paper and paperboard North America Imports and Exports



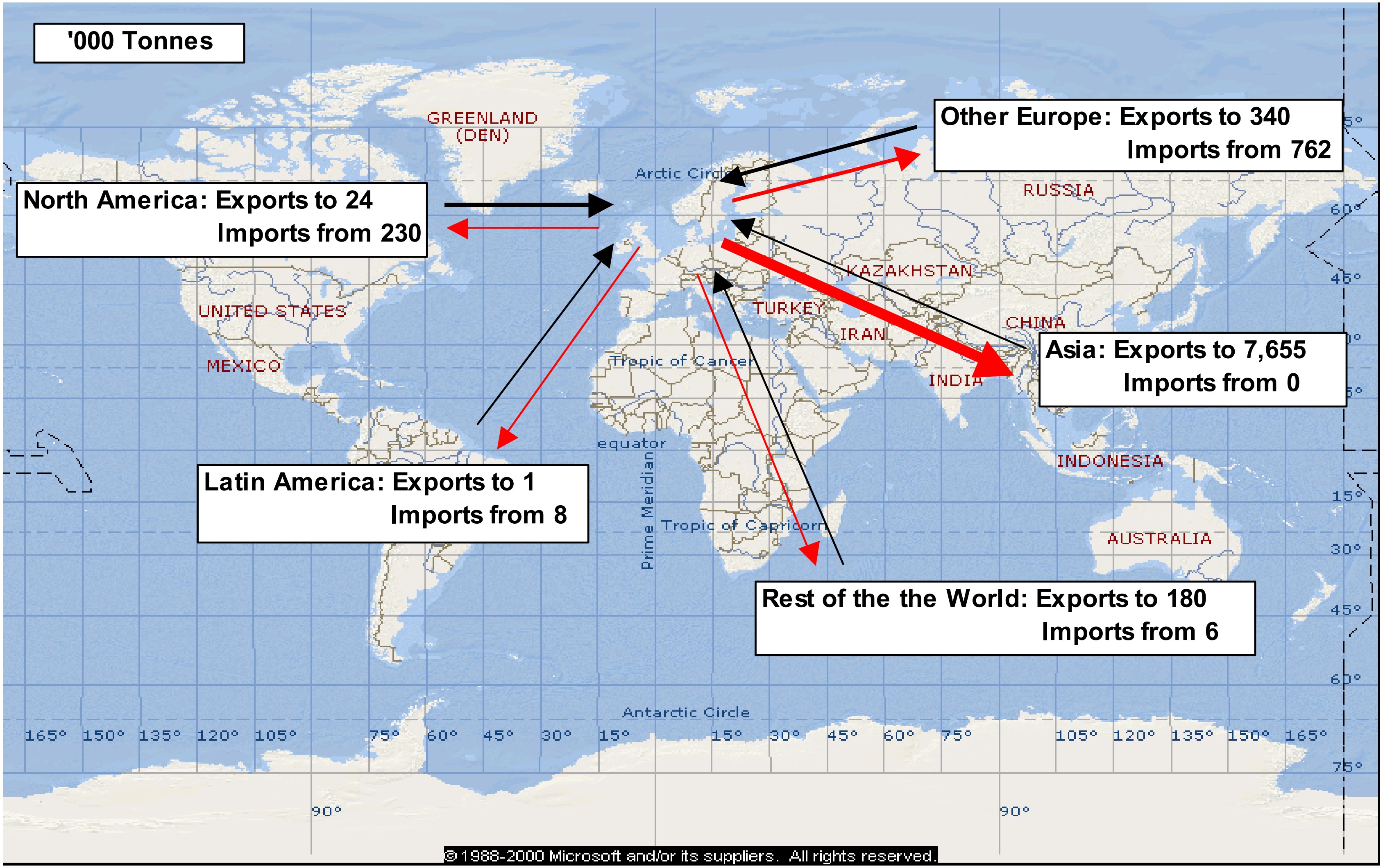
# Paper and paperboard Russian Federation - Production & Consumption



# Paper and paperboard Russian Federation – Imports and Exports



# Trade Flows of Recovered Paper to and from CEPI Countries in 2006

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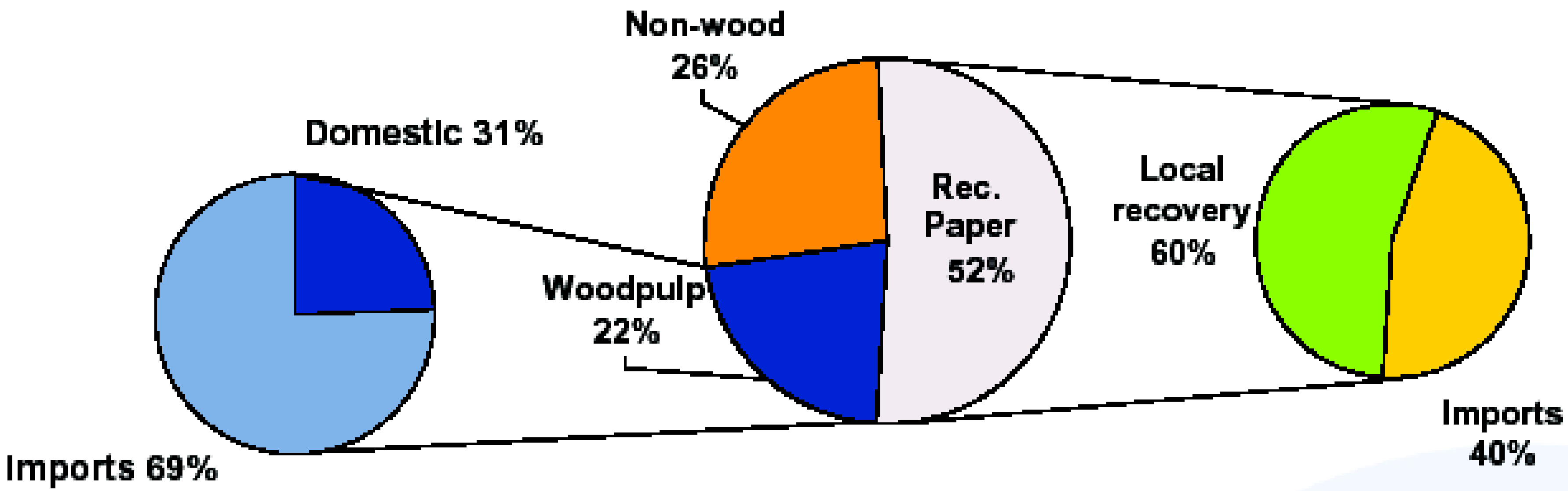
# China's dependence on imported fibre




Wood pulp consumption

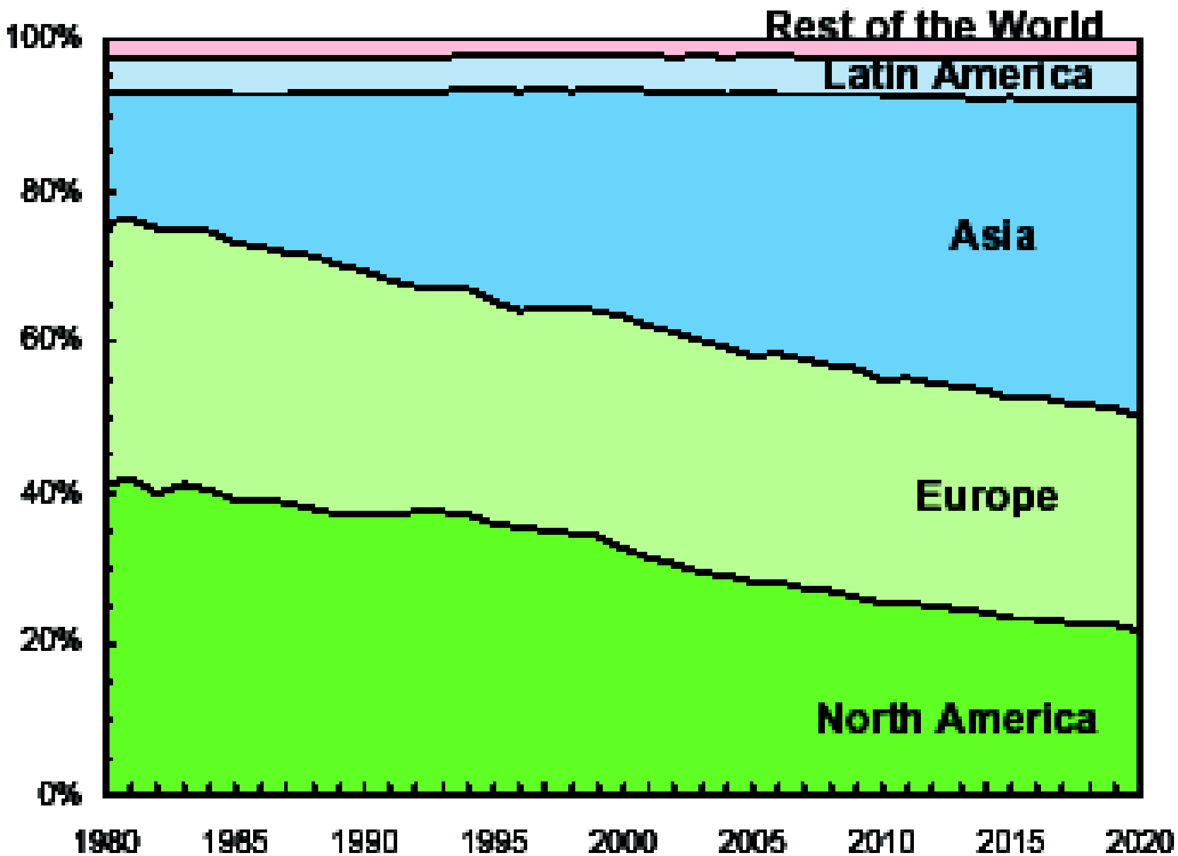
Fibre consumption

Recovered paper consumption

- Recovered paper account for more than 50% of the total fibre consumption, around 40% is imported
- The share of non-wood pulp is declining

Source: Poyry

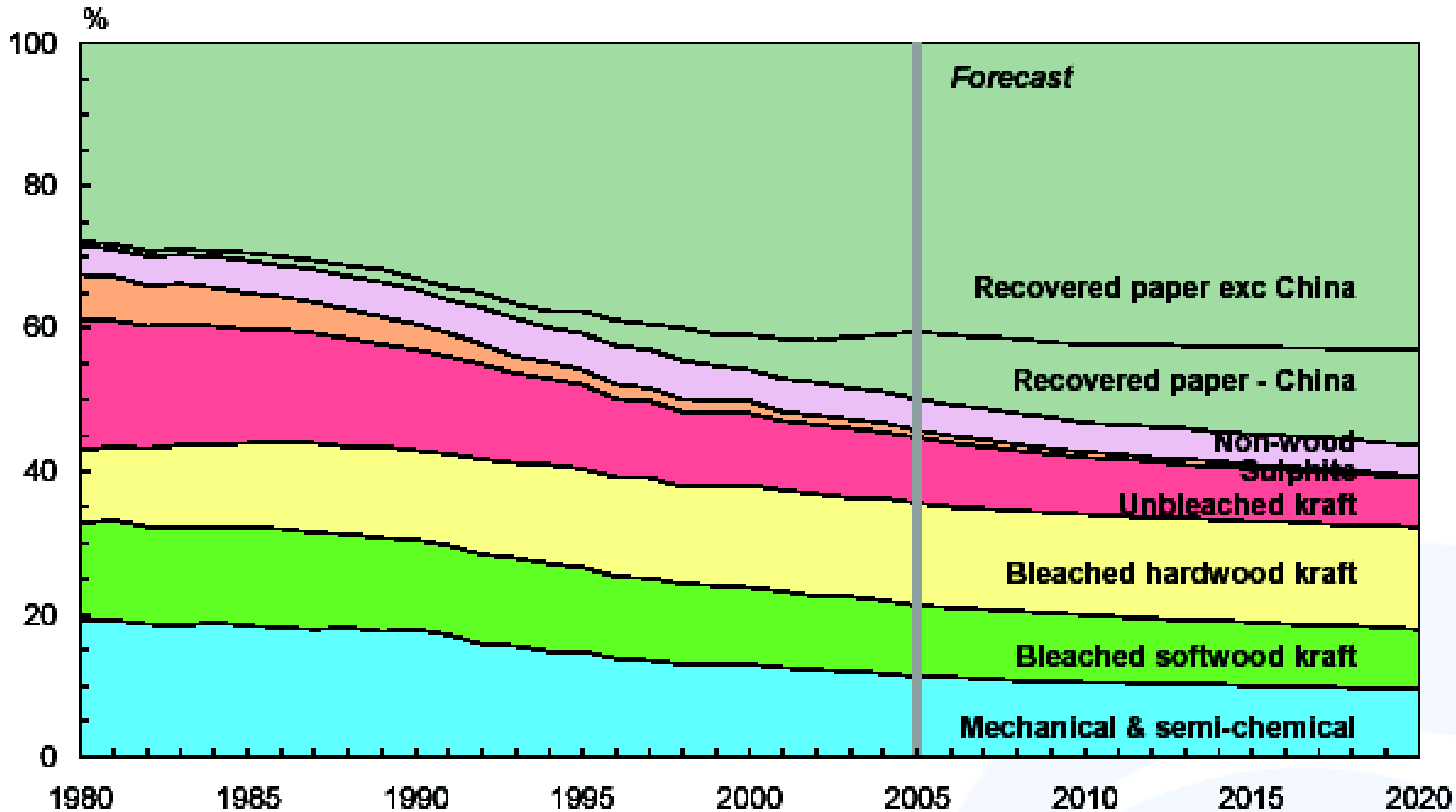
# Paper production forecast - 2020




- 40% of the global production located in Asia
- China taking up 60% of the growth in new capacity
- Link between local demand and local supply disrupted

**Source: Poyry**

# Papermaking fibre furnish in the world - 2020




- **About 370 Mt of fibre used in the world in 2005**
- **Recovered paper share to increase from 50% today to 56%**
- **China utilisation of recovered paper from 35 Mt to 66 Mt**

**Source: Poyry**

# The big challenge ahead: bioenergy

years of cepi

**Political context**

**Climate change considerations**

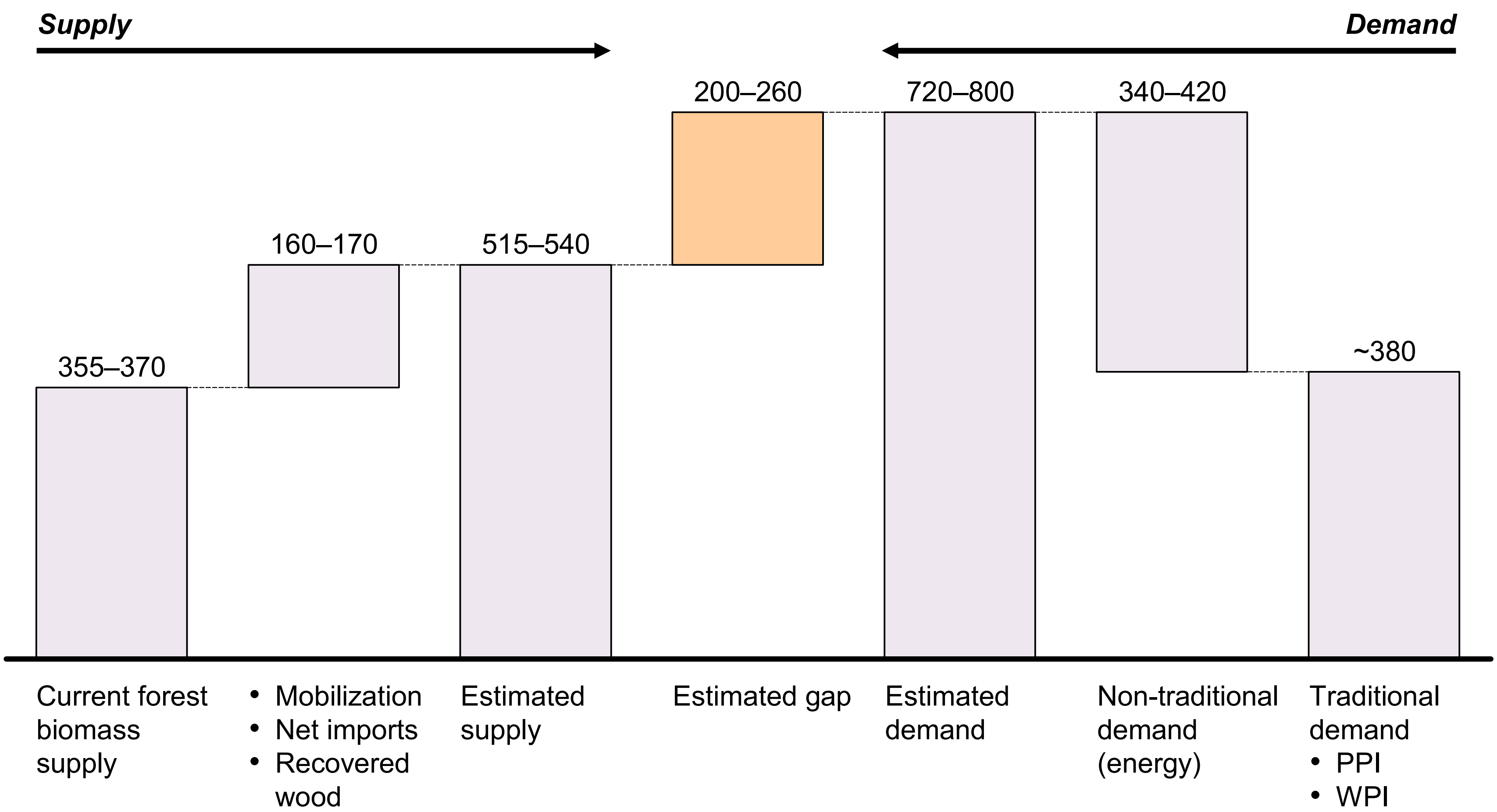
**Higher relevance of security of energy supply**

**Implications – managing the transition to a low carbon economy**

| | |
|---|---|
| Strong international actions to reduce climate change, e.g., **$CO_2$ abatement** | **- 20 %** |
| Strong push for renewable energy sources for power and heat | **+ 13 % ➔ 20%** |
| Strong push for energy efficiency | **- 20 %** |
| Growth of **biomass** for power and heat production | |
| Emergence of **biofuels** for transportation | **➔ 10%** |
| Changing competitive landscape for traditional users of wood and RP | |

# Will wood supply match demand ?

CEPI-16, wood supply and demand; million $m^3$ (under bark); 2020




Source: McKinsey/Pöyry team analysis

# Possible future scenarios

**Today: ~6% RES**

*Current policies and technology expectations*

**2**

No mismatch between demand and supply of wood biomass
- Increased biomass supply
- Other RES technologies

- Some cost increase (regional mismatches/transportation)
- Limited impact on PPI
- Rough costs involved
  - Increasing supply of energy crops 1.5-2.0 billion EUR/year
  - Non-biomass RES: 4-6 X

**1**

Mismatch between demand and supply of wood biomass

Current subsidy levels and structure

- Significant increase in cost of bio-mass (incl. pulpwood and logs)
- Some risk to paper industry competitiveness
- Significant risk of bio-energy not being fully produced (240 TWh or 8% of RES target)

**3**

Enforcing RES target without closing demand-supply gap

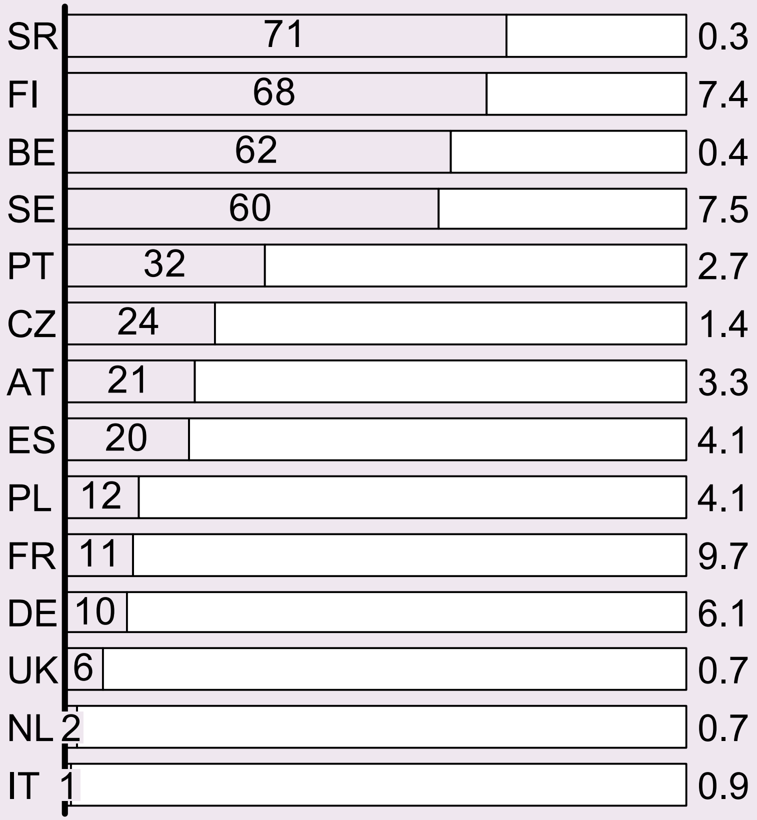
- Large increases in wood cost (energy-content pricing)
- Significant part of EU PPI (and wood products) globally uncompetitive
- Rough cost of additional bio-energy incentives: 8-11 x

Source: McKinsey/Pöyry team analysis

# The pulp and paper industry is not the problem … it is part of the SOLUTION

**The PPI is already a substantial participant in bio-energy production…**

**Share of country primary bio-energy production**
Percent; Mtoe




**…and can be a key enabler for reaching future RES targets**

**The paper industry has:**

**The infrastructure**

Biomass generation and sourcing organization in place (both RP and fresh fiber)

**The locations**

Network of installed assets that can be used for power, heat, and fuel

**The efficiency**

Very high efficiency in generating (and using) heat

Source: CEPI bio-energy survey; SBB; McKinsey/Pöyry team analysis

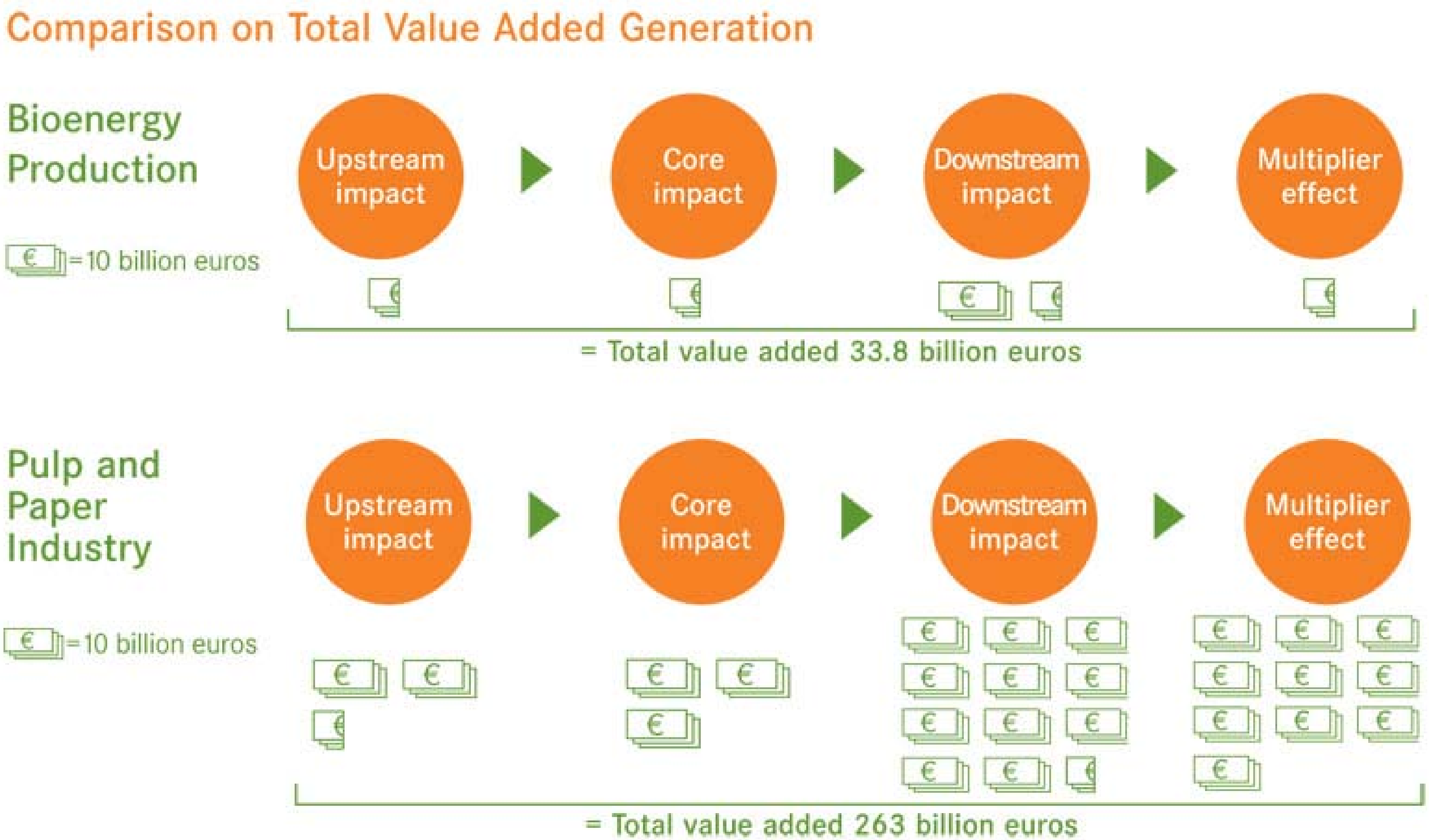
# There are solutions to relief pressure

"Close to home"

| | Potential effect 2020 Million $m^3$ |
|---|---|
| Continued aggressive energy-efficiency measures in PPI, e.g., replacing old recovery and multifuel boilers | ~10 |
| Additional mobilization of round wood and residue | 30–35 |
| Other measures, e.g., • Lobby for removing existing export tariffs • Decrease landfill of recovered wood | 5–10 |
| Import more biofuels; efficient use of land for first generation biofuels | 50–80 |
| Free up additional land to grow more energy crops (estimated 6 million ha) | 115–175 |
| | Up to 310 |

Outside PPI

# Ways forward: focus on value creation




Pöyry Forest Industry Consulting Oy & Foreco Oy

# Ways forward: focus on keeping jobs