



Pulp and paper markets and forecasts

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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

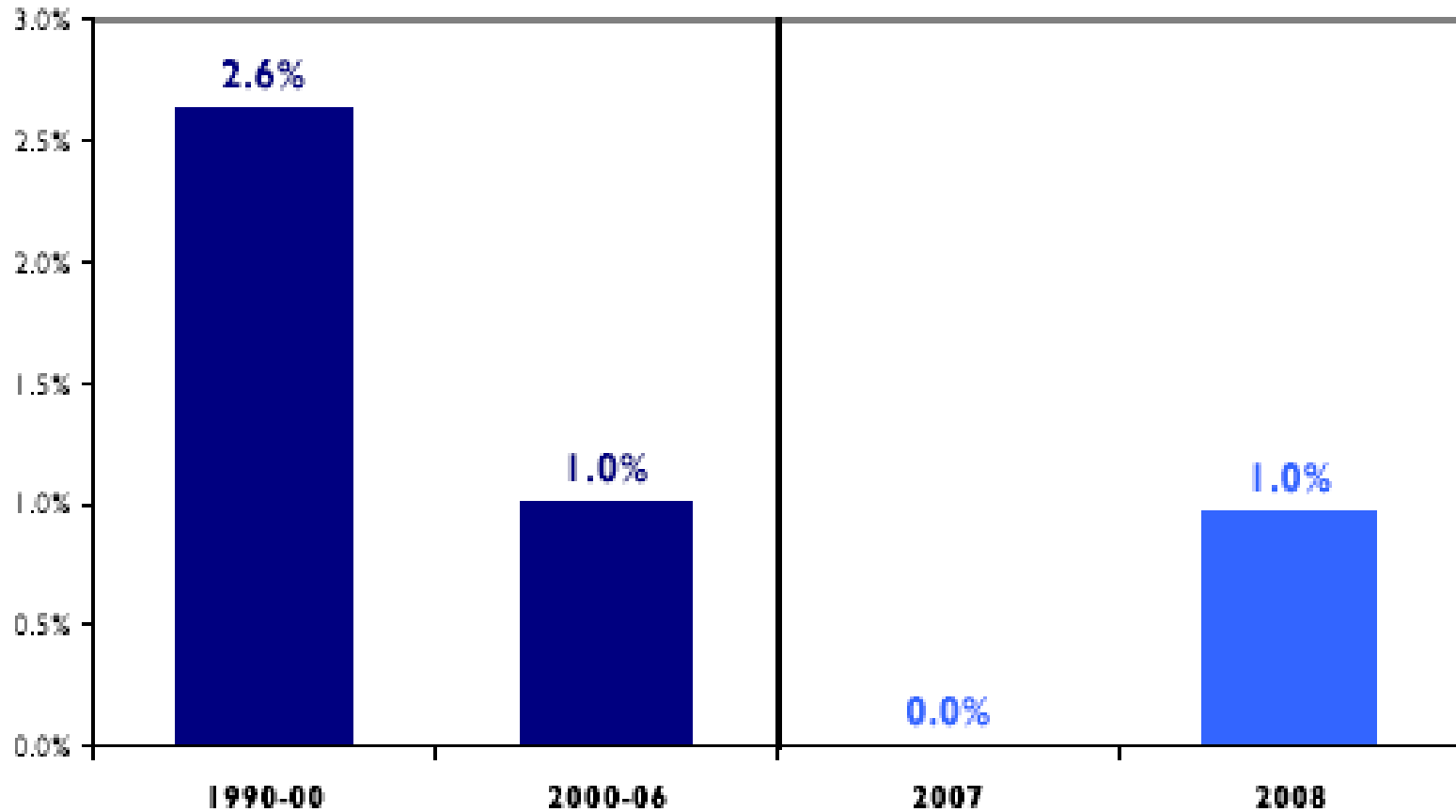
Paper consumption - 2006

	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

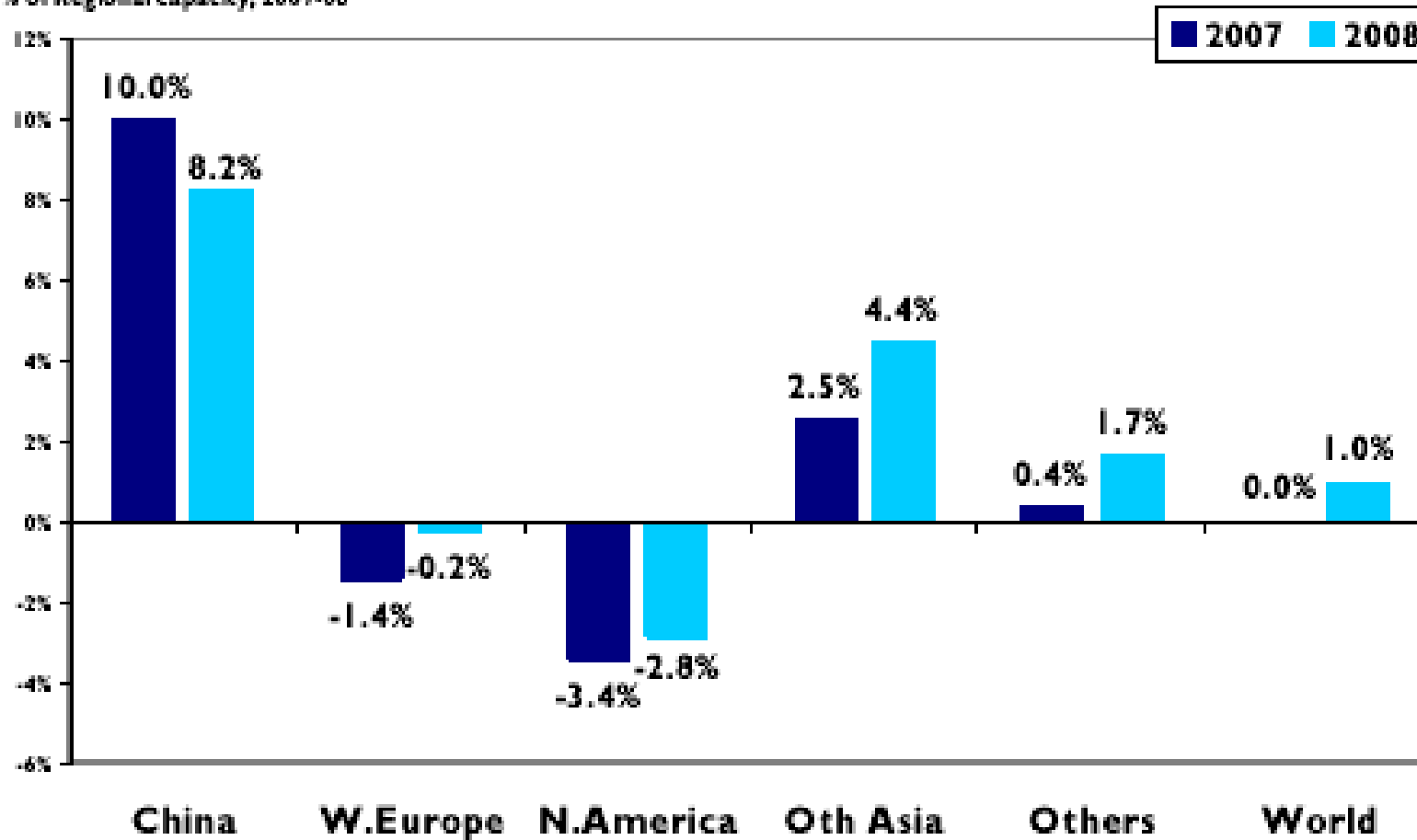


Source: EMGE

Graphic papers

Net capacity increase by region

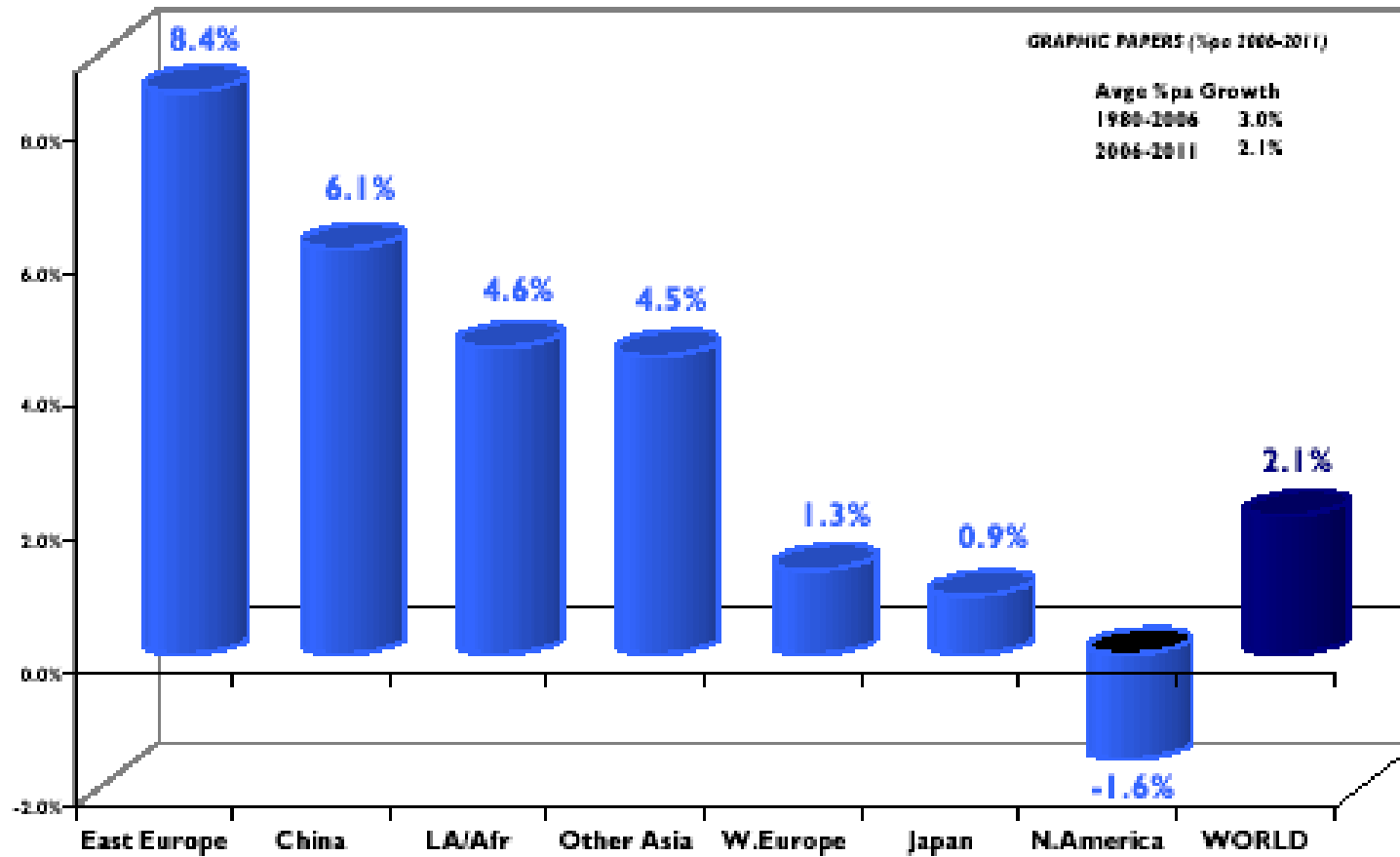
% of Regional capacity, 2007-08



Source: EMGE

Graphic papers Demand forecast by region

AVERAGE %pa GROWTH (2006-2011)



Source: EMGE

Containerboard

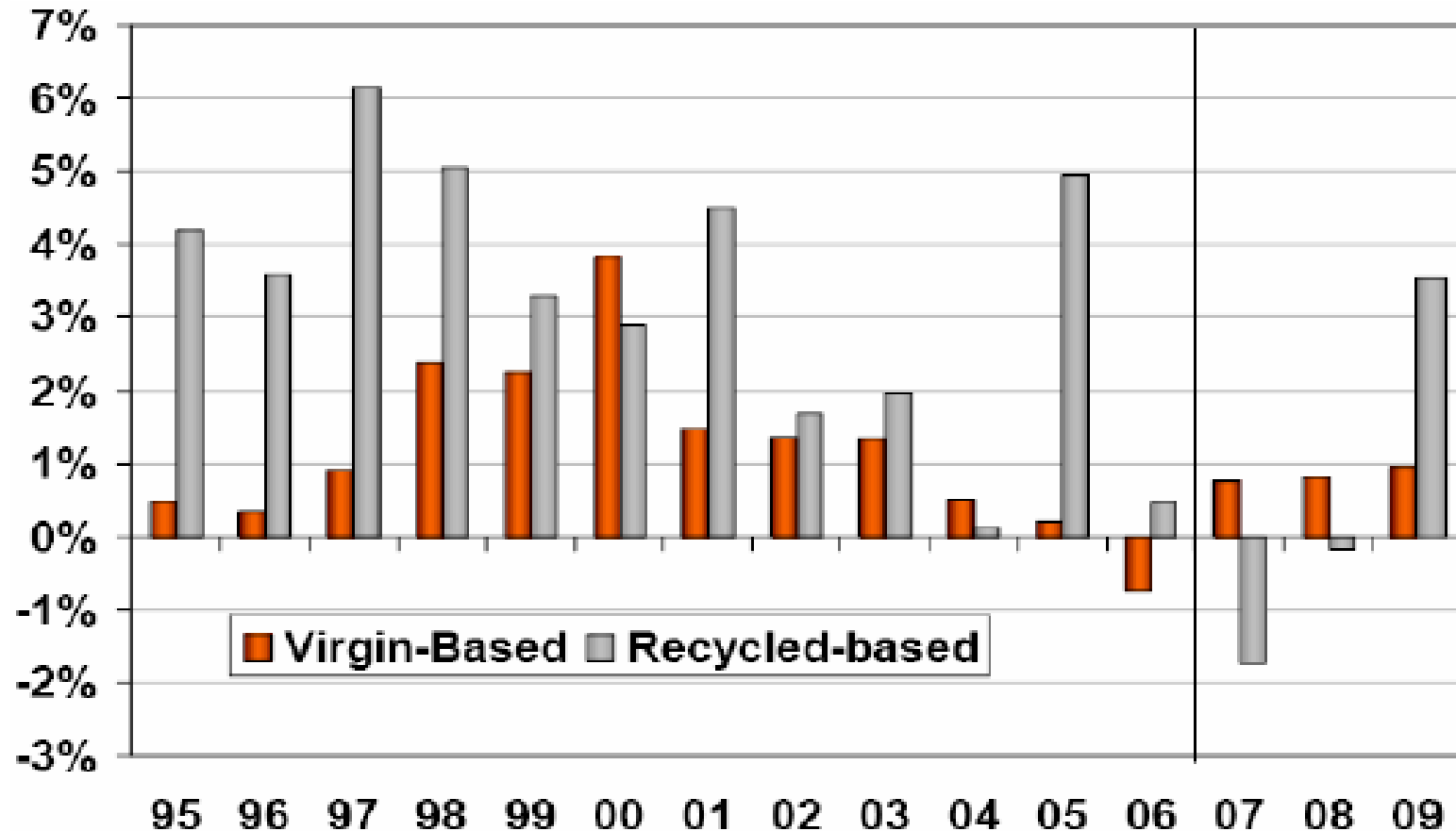
Main trends and drivers



- **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	Total P&B	Mt	06/05
World	49.5	+4.7%	World	382.0	+4.3%
Asia	17.9	+9.9%	Asia	140.8	+9.0%
Europe	14.4	+3.6%	Europe	113.2	+3.2%
N. America	14.9	+0.4%	N. America	102.2	+0.1%
S. America	1.8	+2.1%	S. America	18.3	+2.7%
Africa	0.3	0.0%	Africa	4.2	+2.9%
Australasia	0.2	+4.7%	Australasia	3.3	-2.6%

Source: RISI

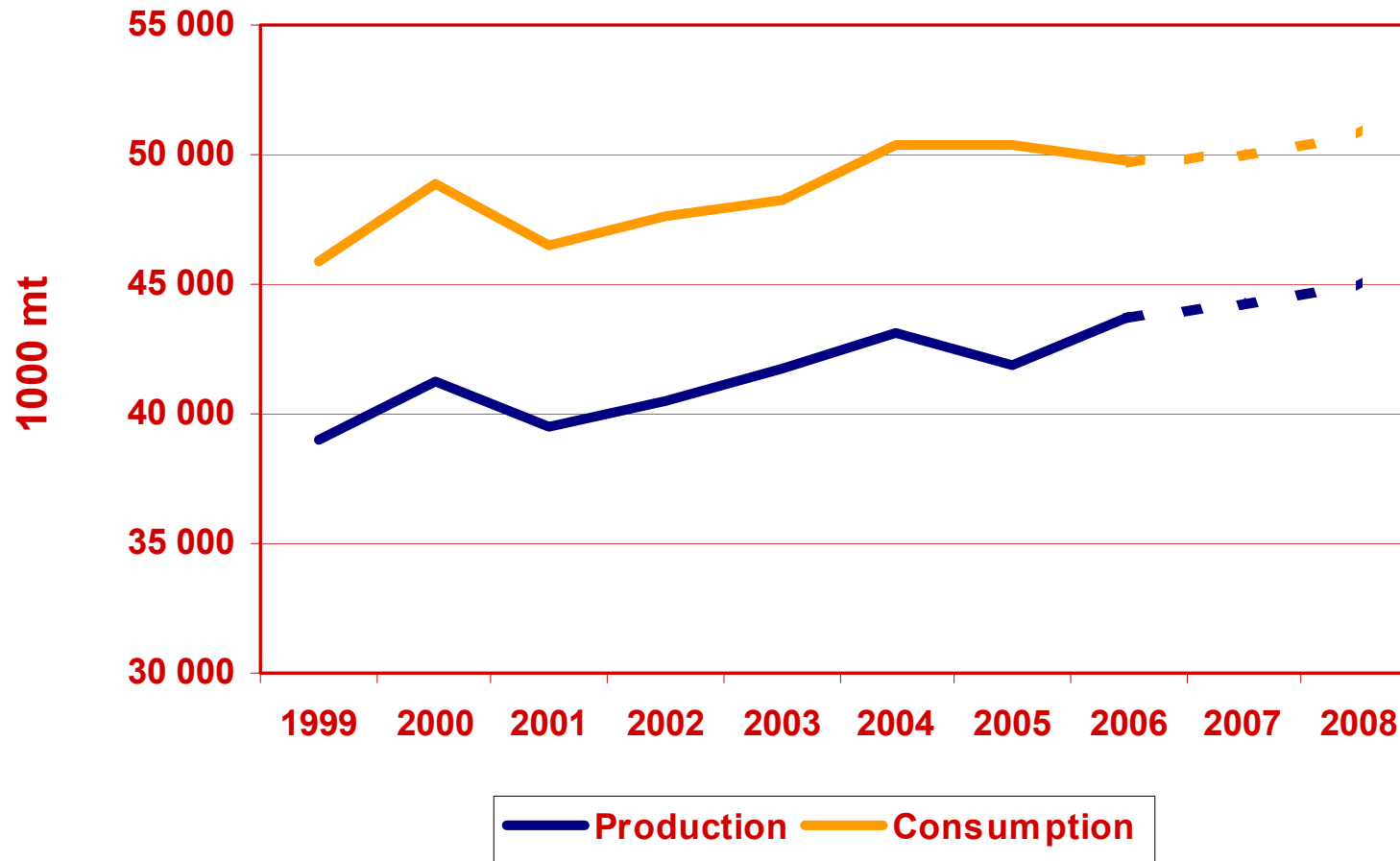
Cartonboard

Main markets and drivers

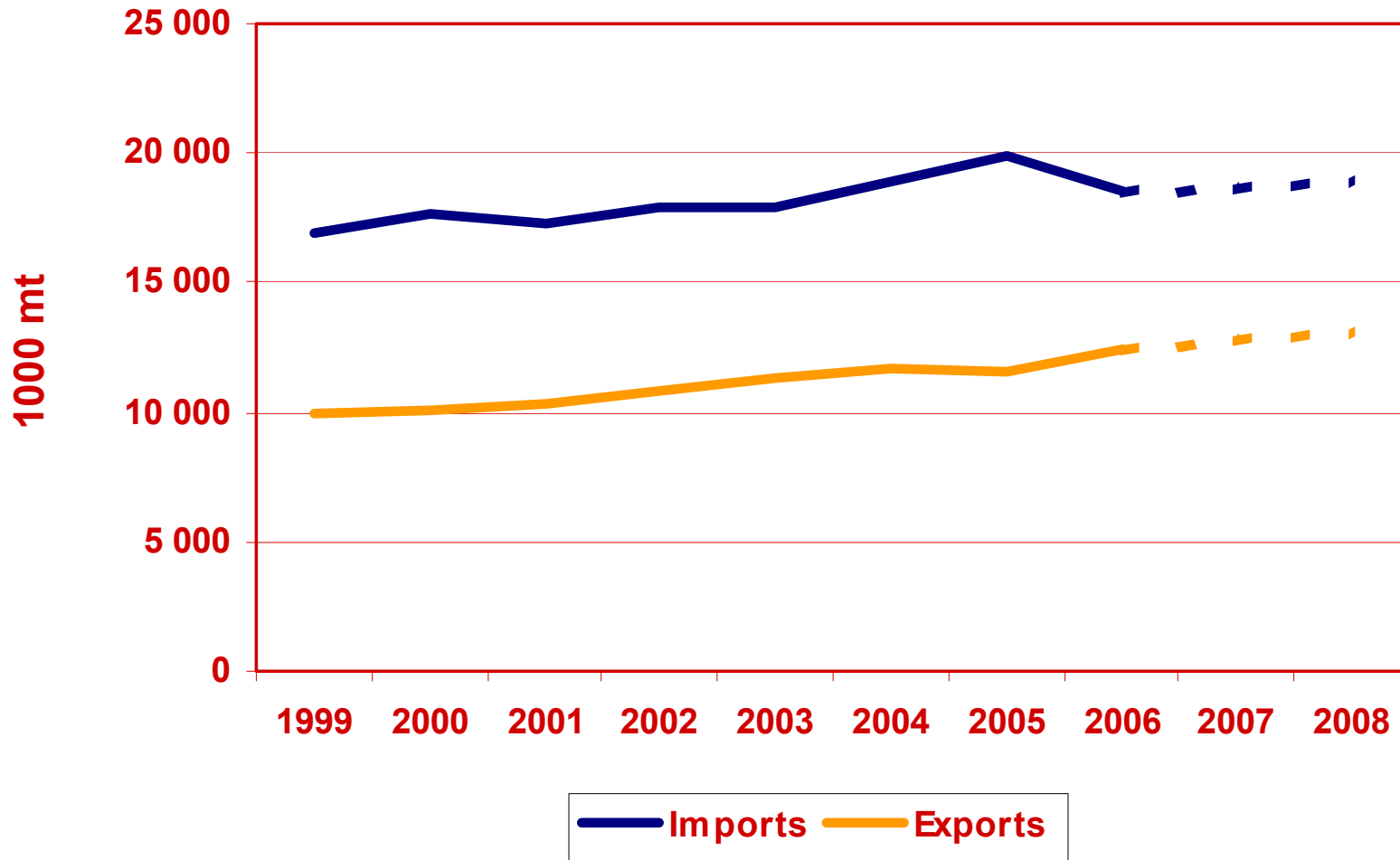


- **Food packaging accounted for largest share: 18 Mt in 2006**
- **Single biggest sector is pharmaceutical industry (10%), followed by dry foods, frozen foods and tobacco**
- **Consumption would rise by a yearly average of 5% through 2012 based largely on growing demand in non-food sector**
- **Drivers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

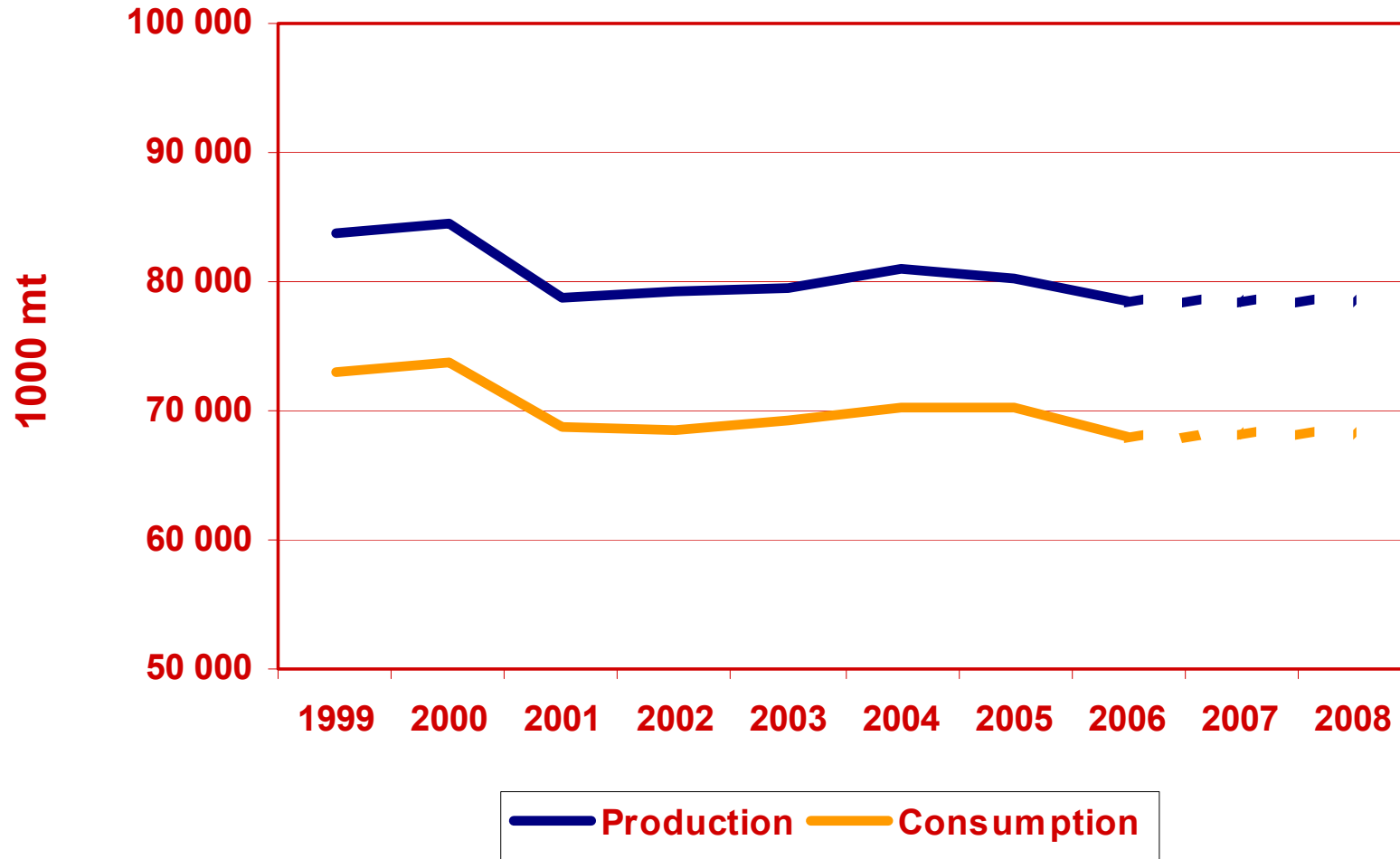
Wood Pulp Europe Production and Consumption



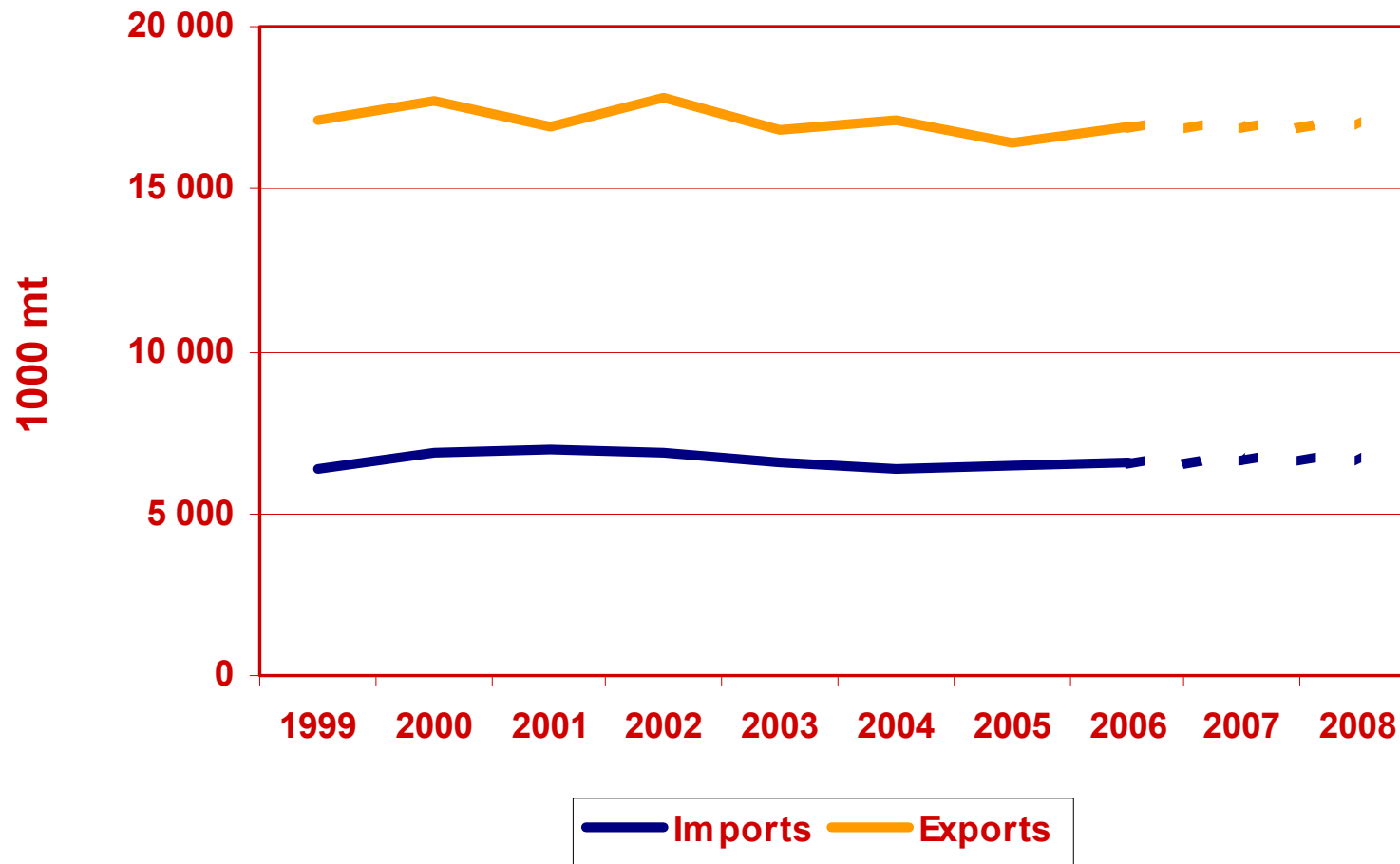
Wood Pulp Europe Imports and Exports



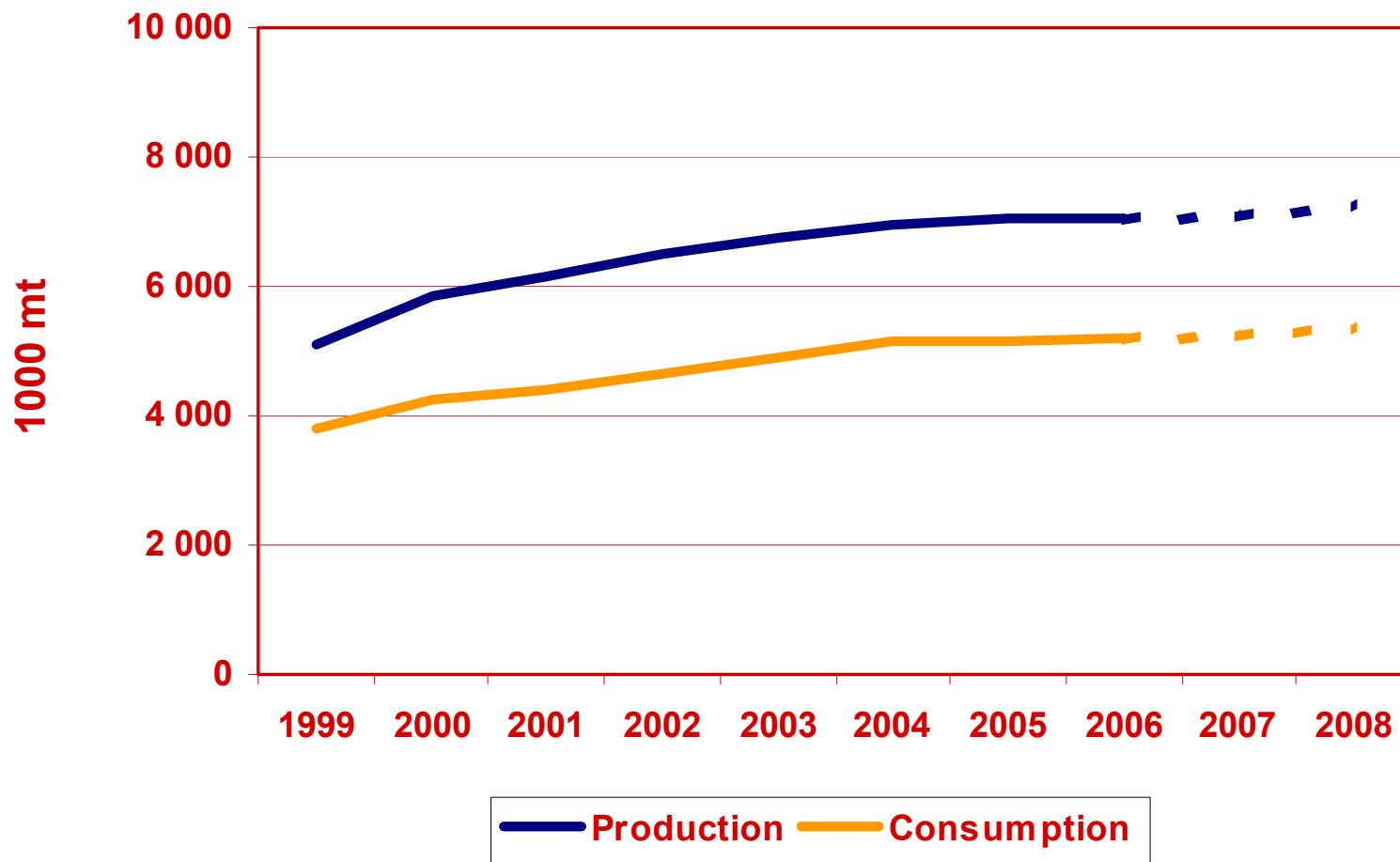
Wood Pulp North America Production and Consumption



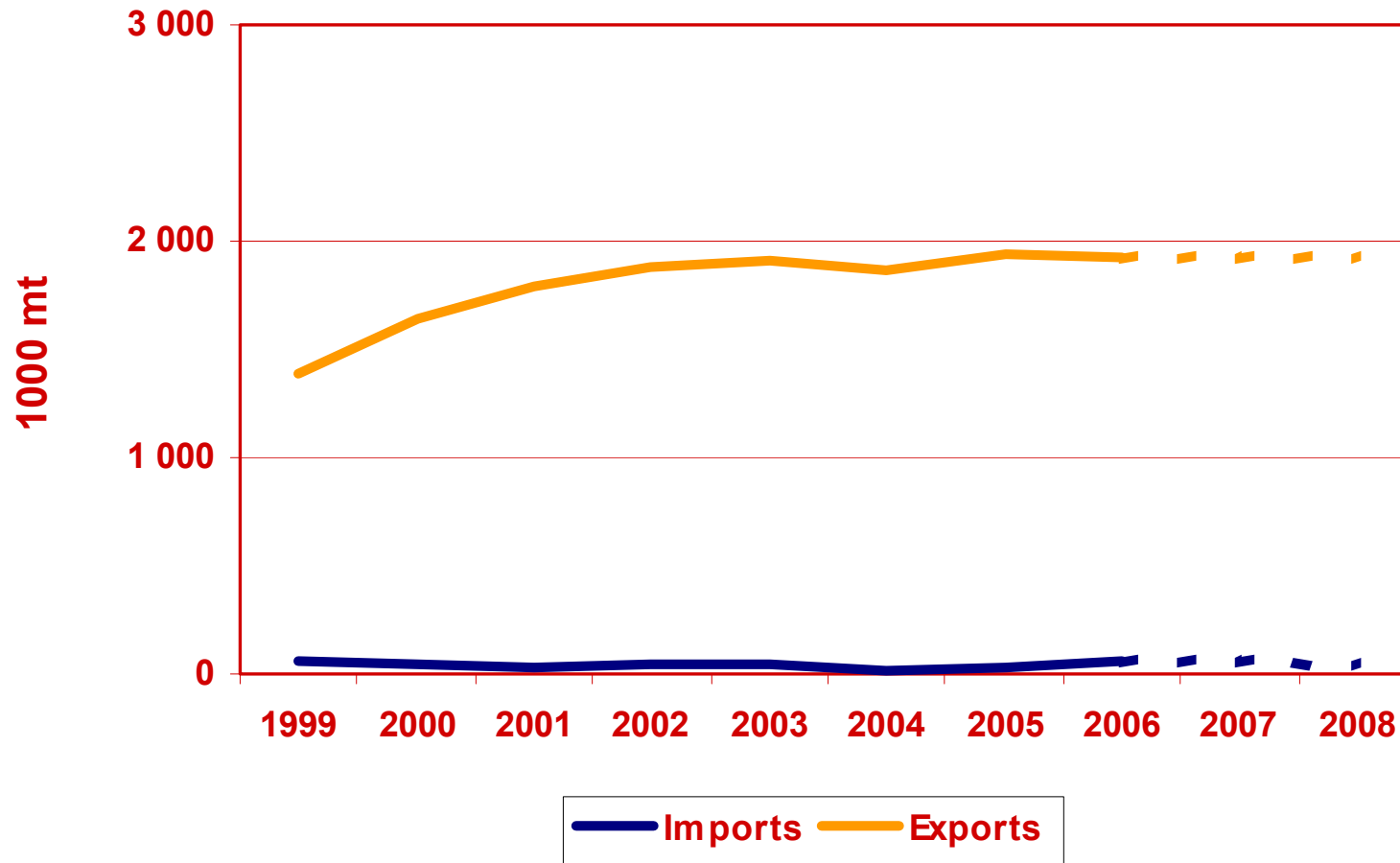
Wood Pulp North America Imports and Exports



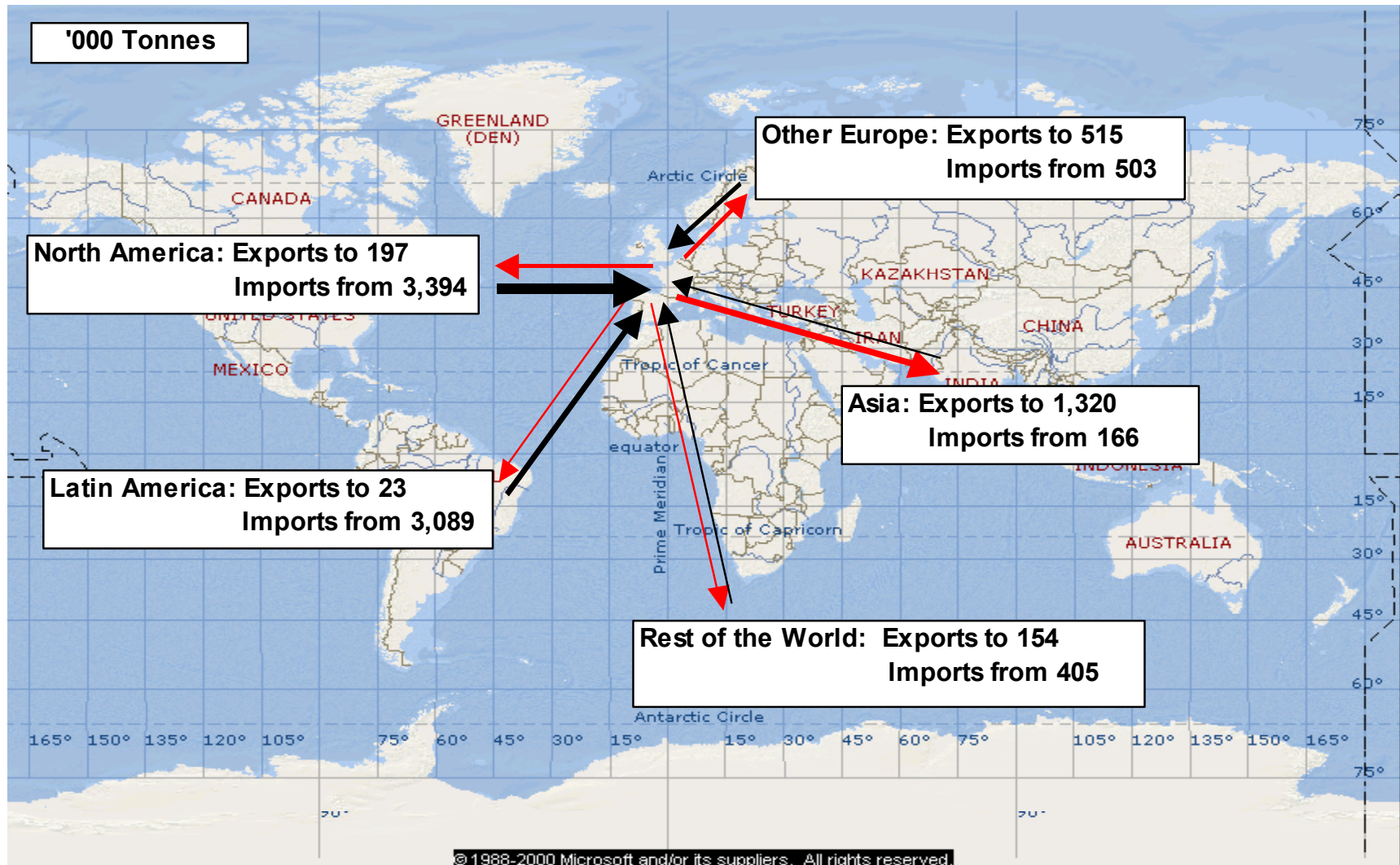
Wood Pulp Russian Federation Production and Consumption



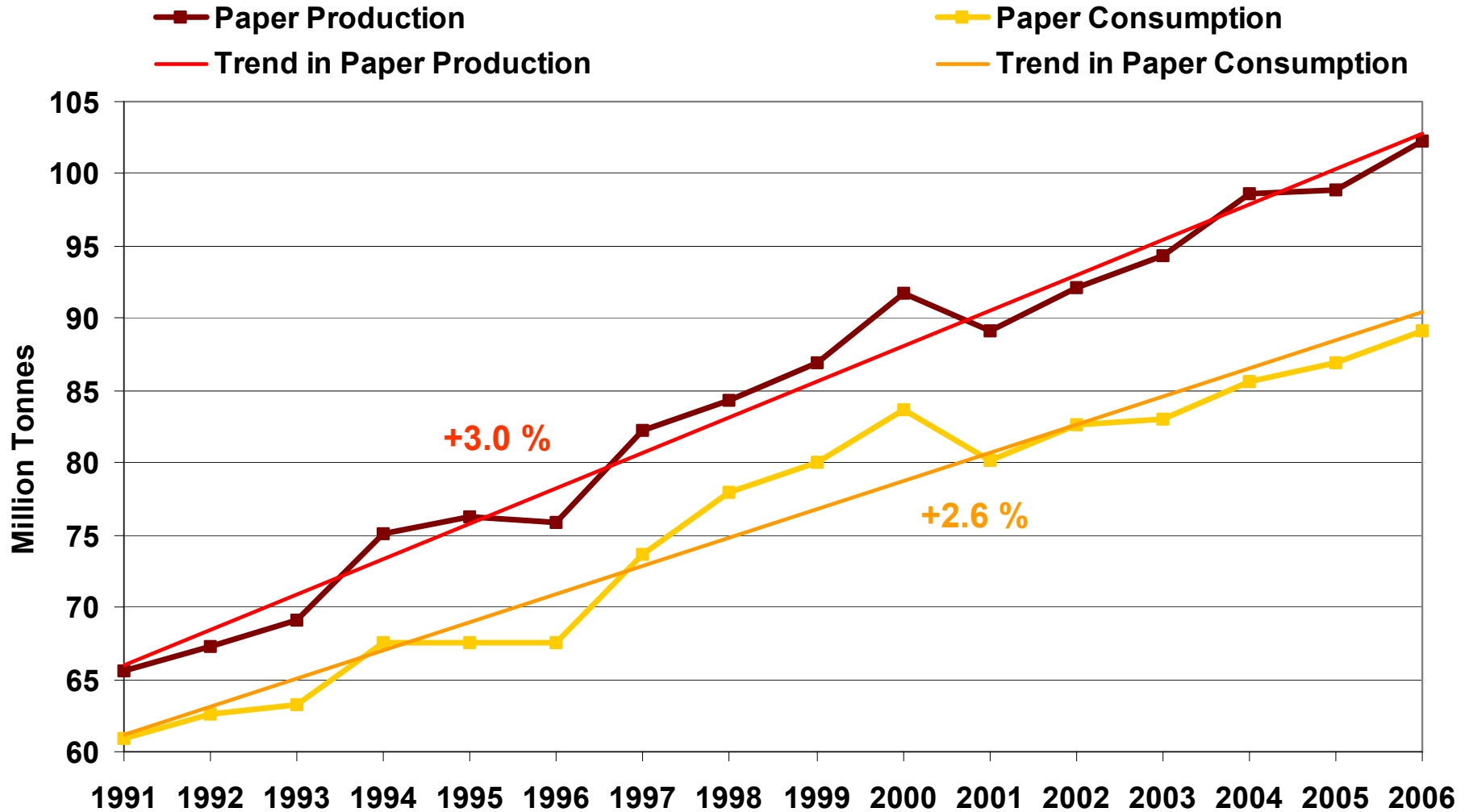
Wood Pulp Russian Federation Imports and Exports



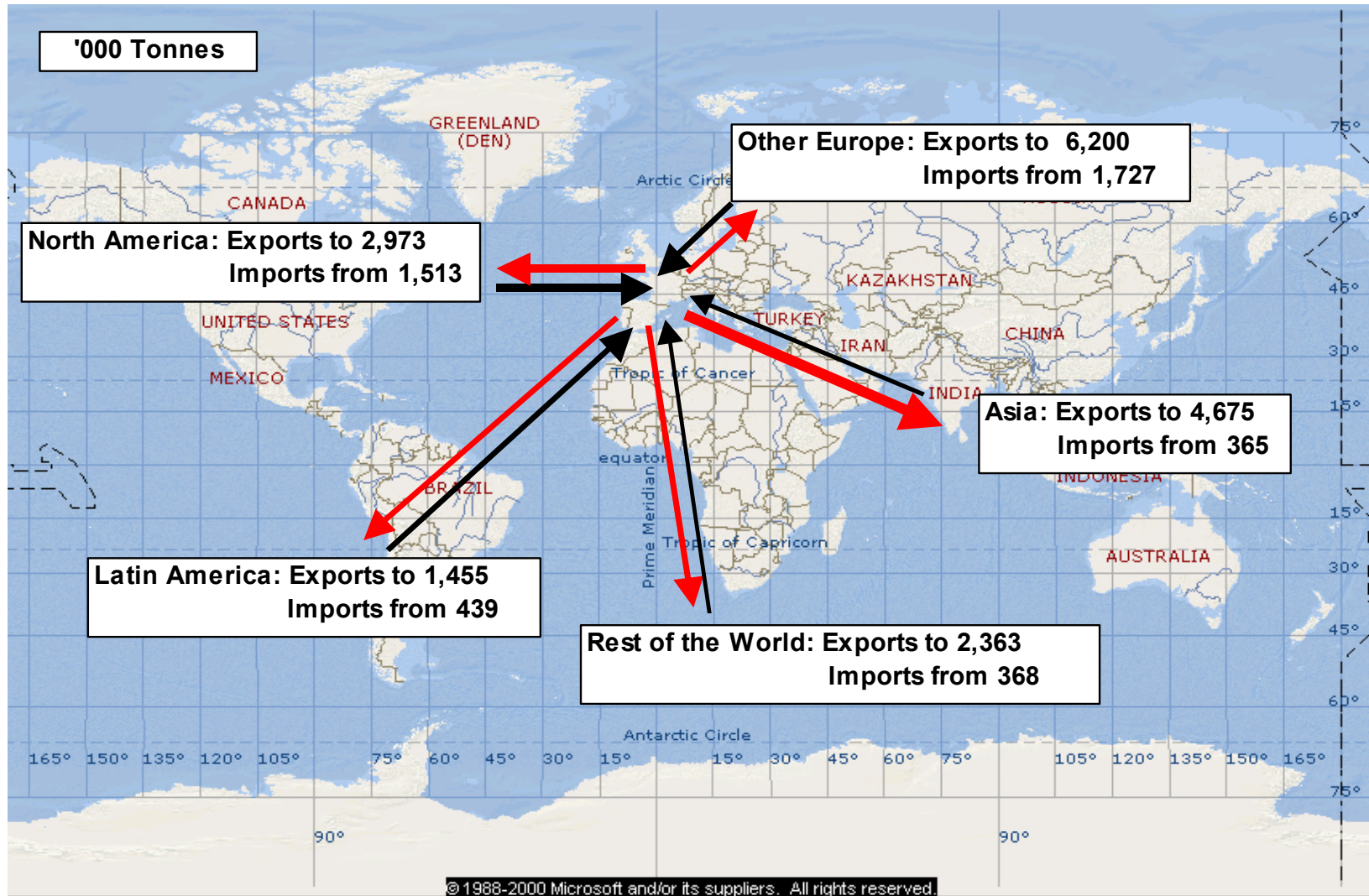
Trade Flows of Pulp to and from CEPI Countries in 2006



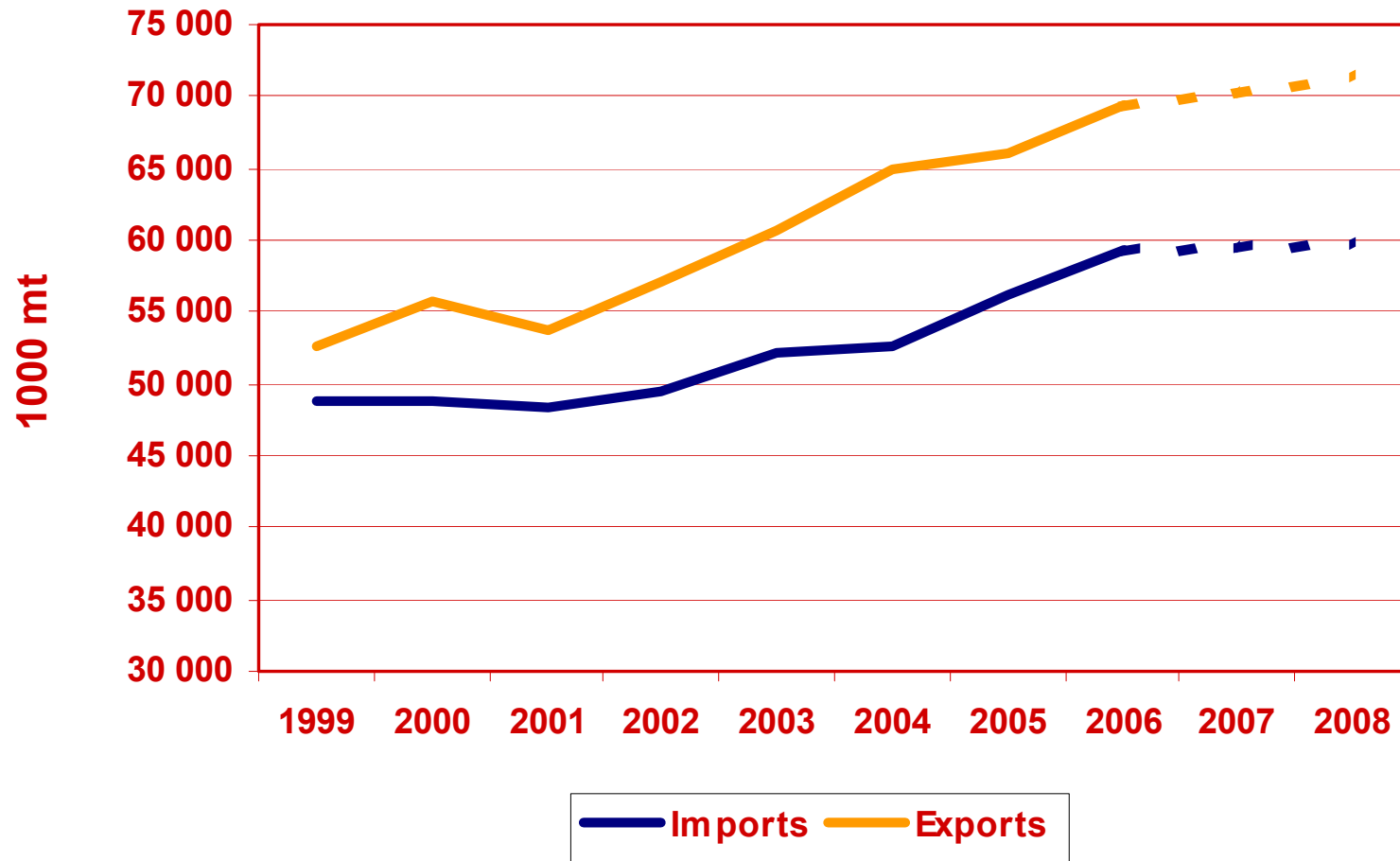
Paper Production and Consumption in CEPI Countries 1991 - 2006



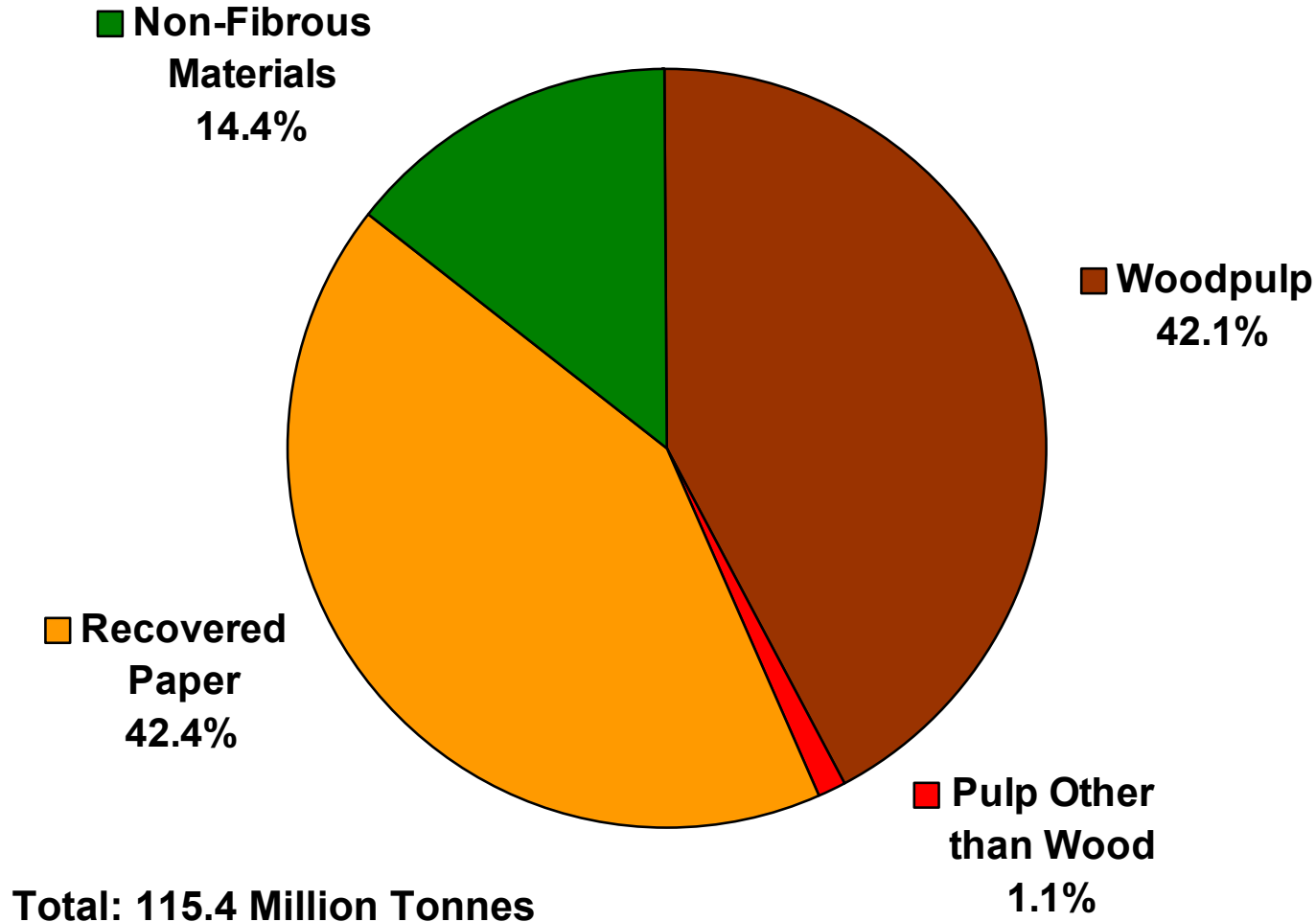
Trade Flows of Paper to and from CEPI Countries in 2006



Paper and paperboard Europe Imports and Exports



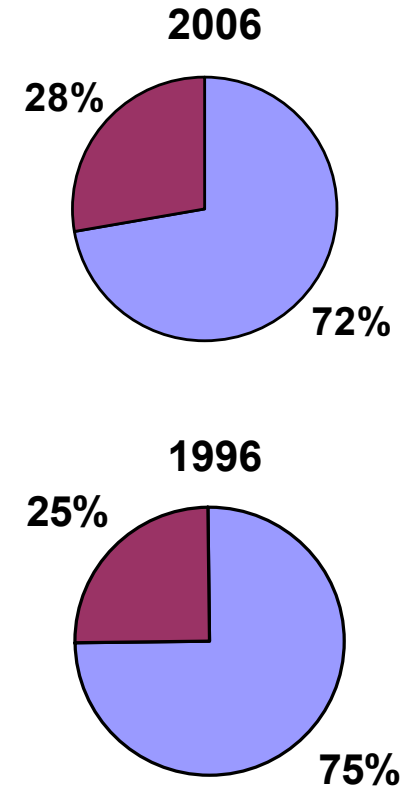
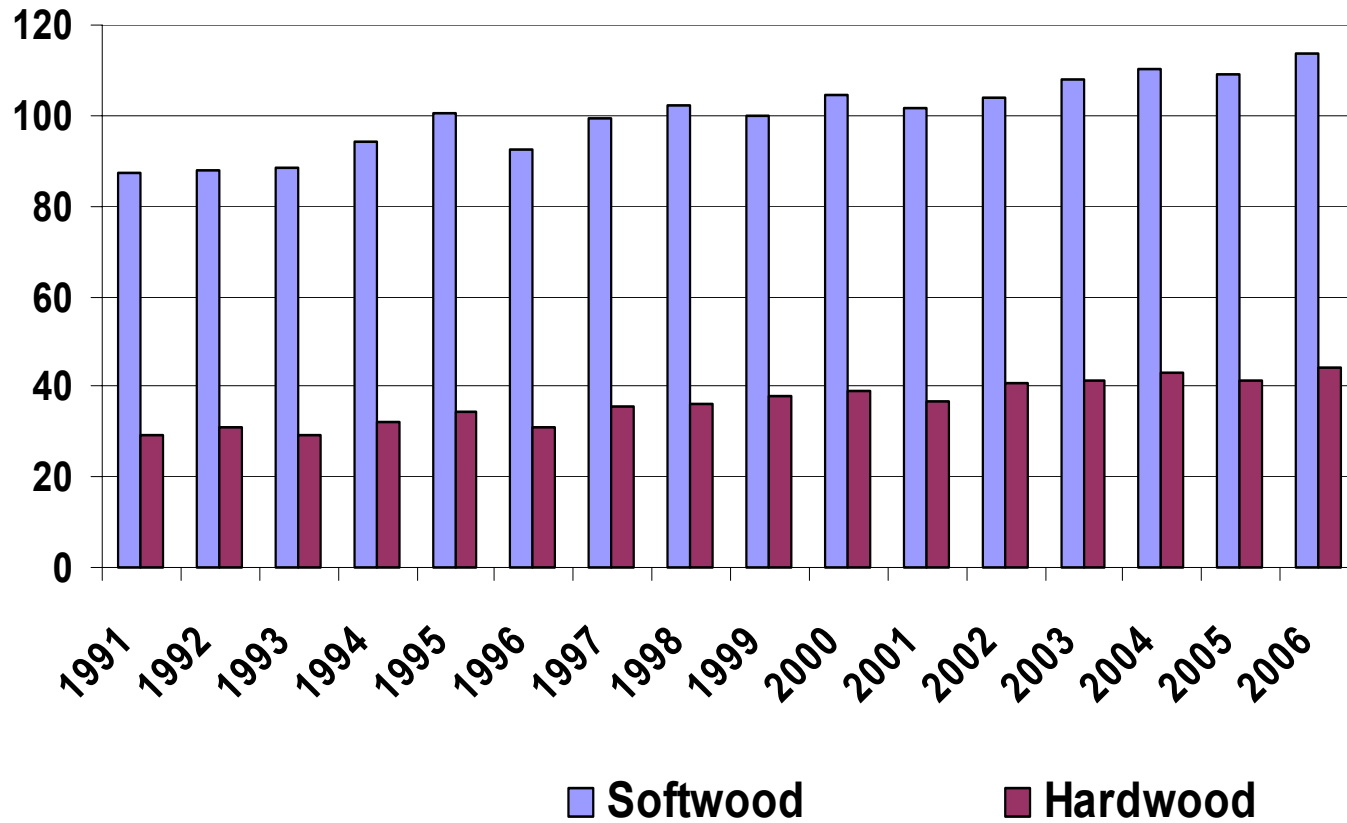
Raw Materials in Papermaking in CEPI Countries 2006



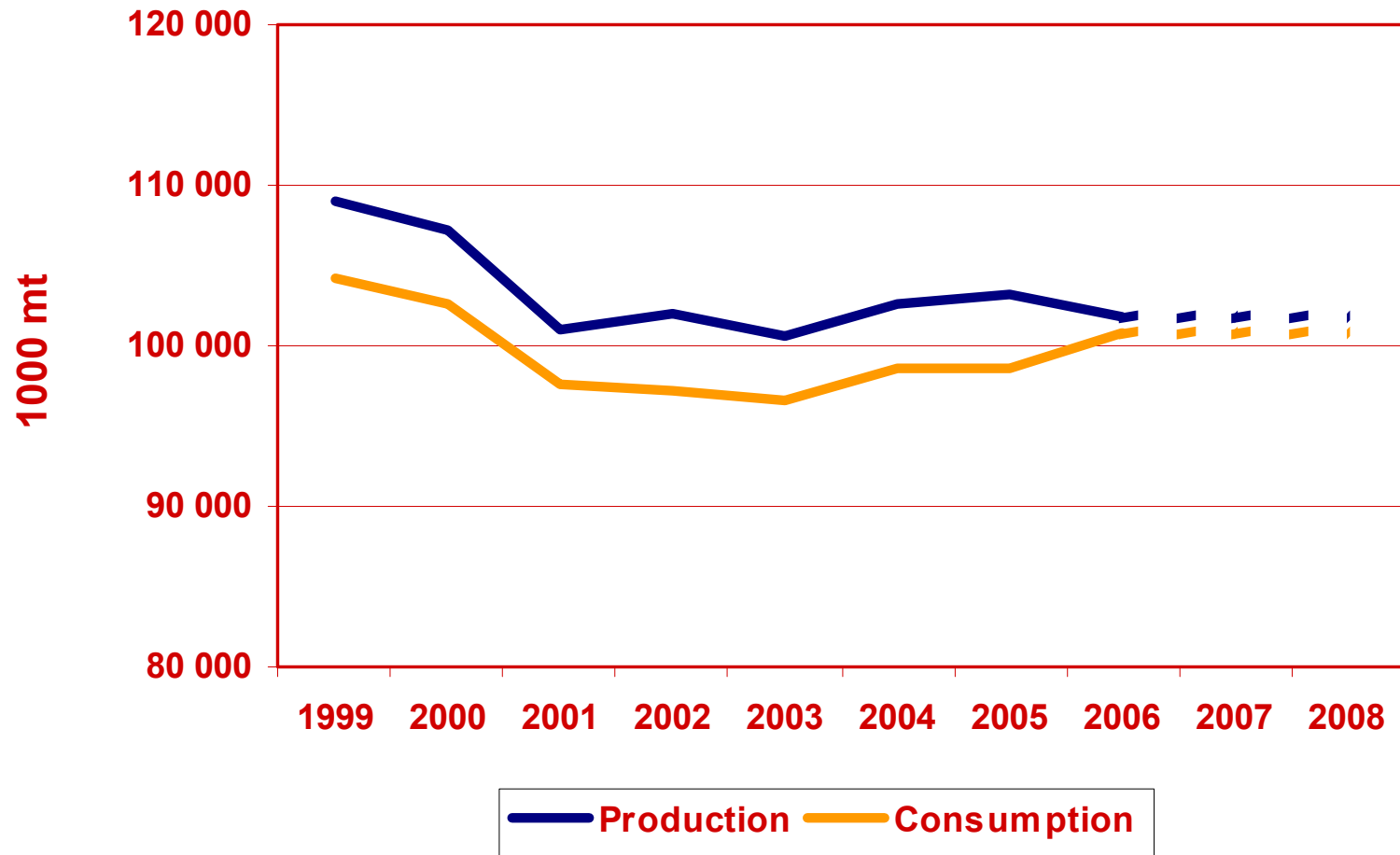
Wood consumption for pulp manufacturing in CEPI Countries 2006



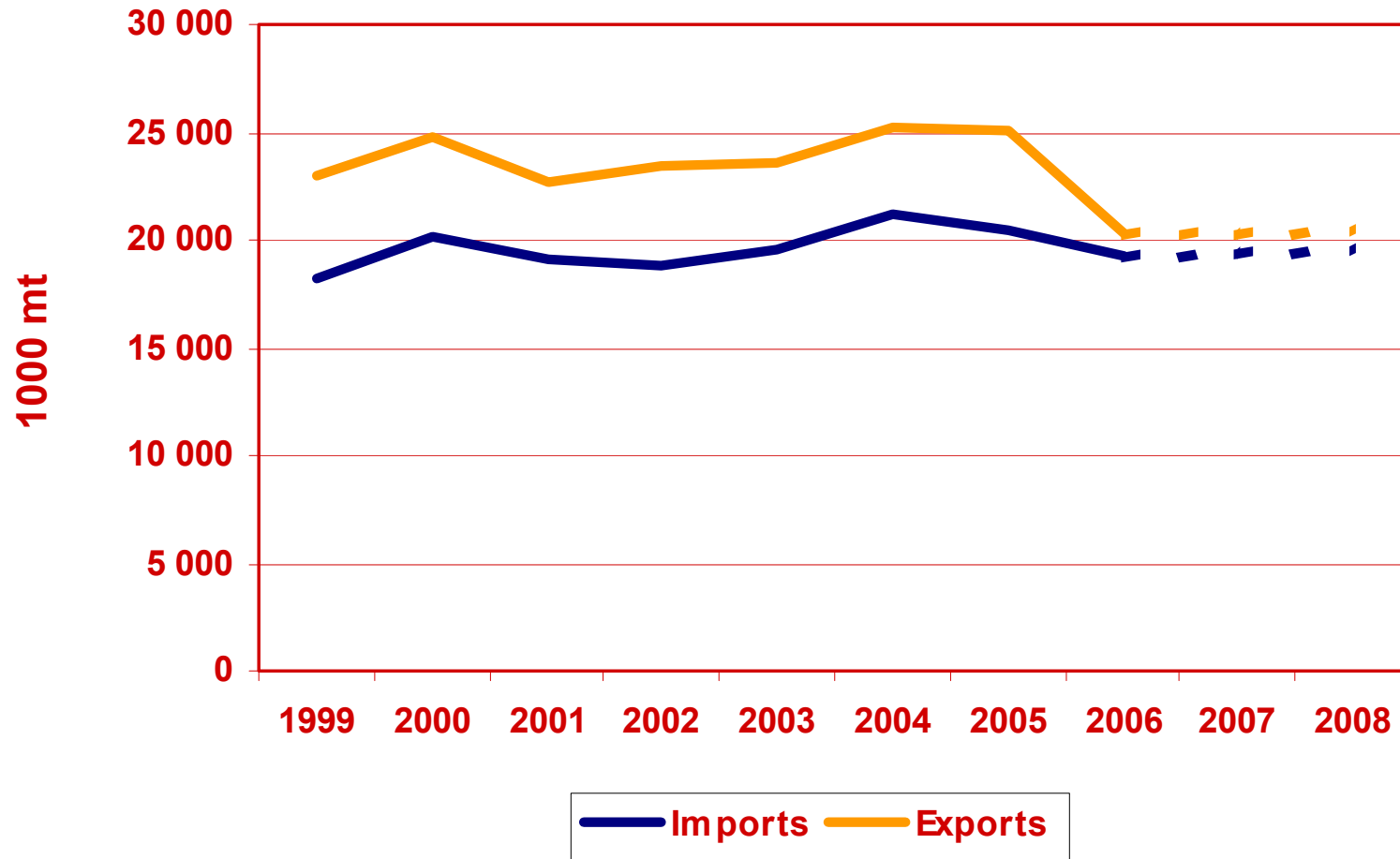
Total: 158 Million Cubic metres in 2006 / +28% over last 10 years



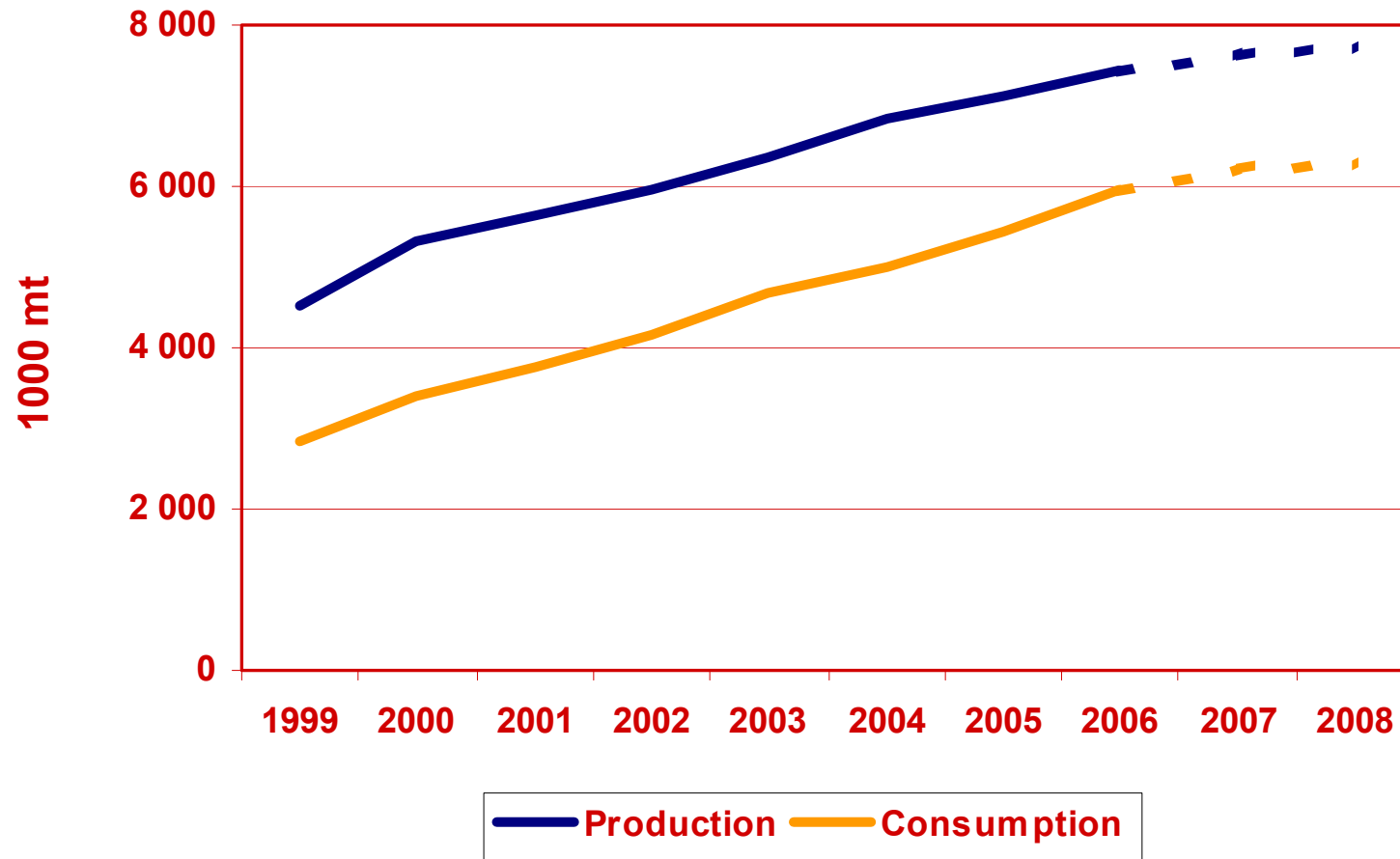
Paper and paperboard North America Production and Consumption



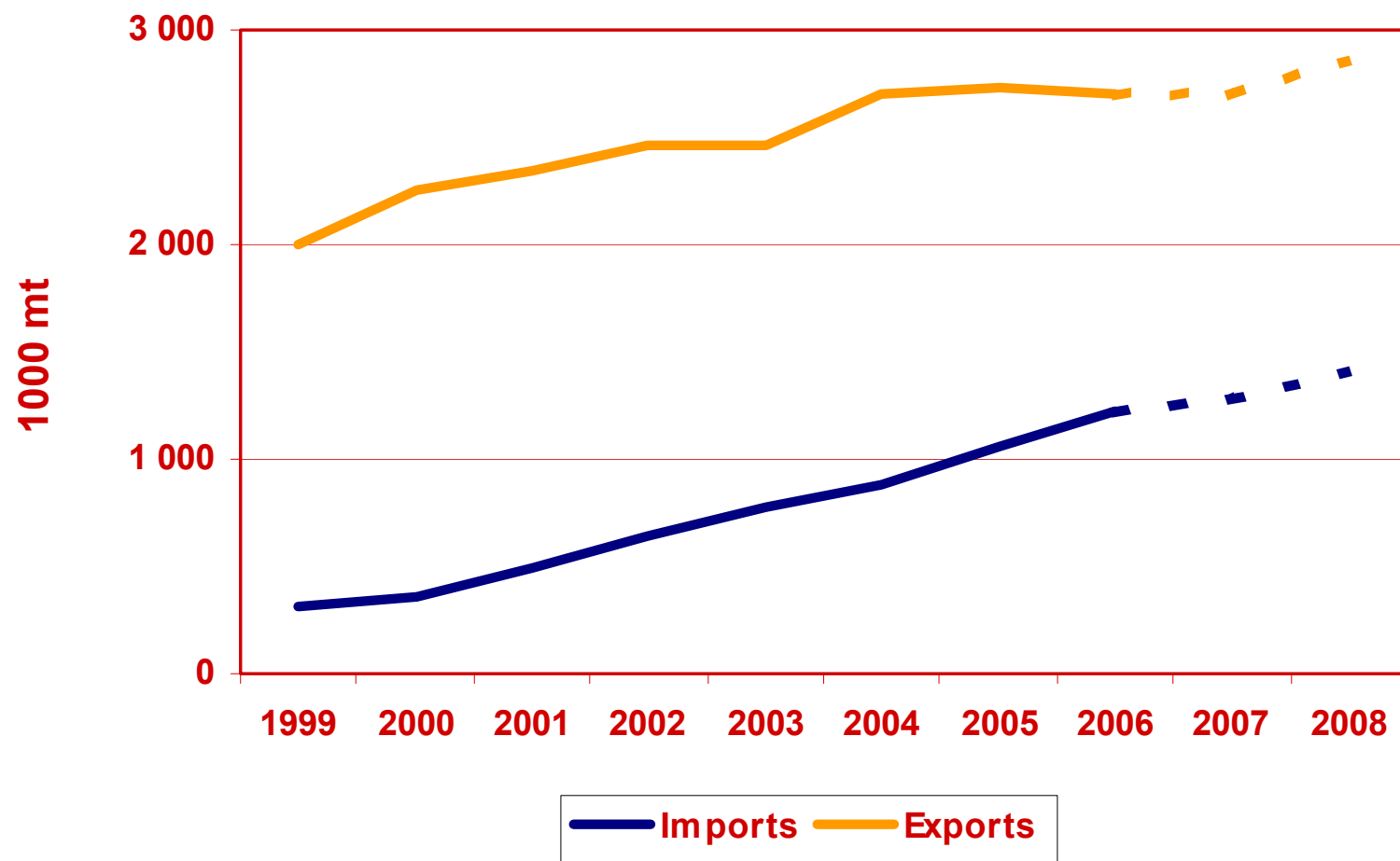
Paper and paperboard North America Imports and Exports



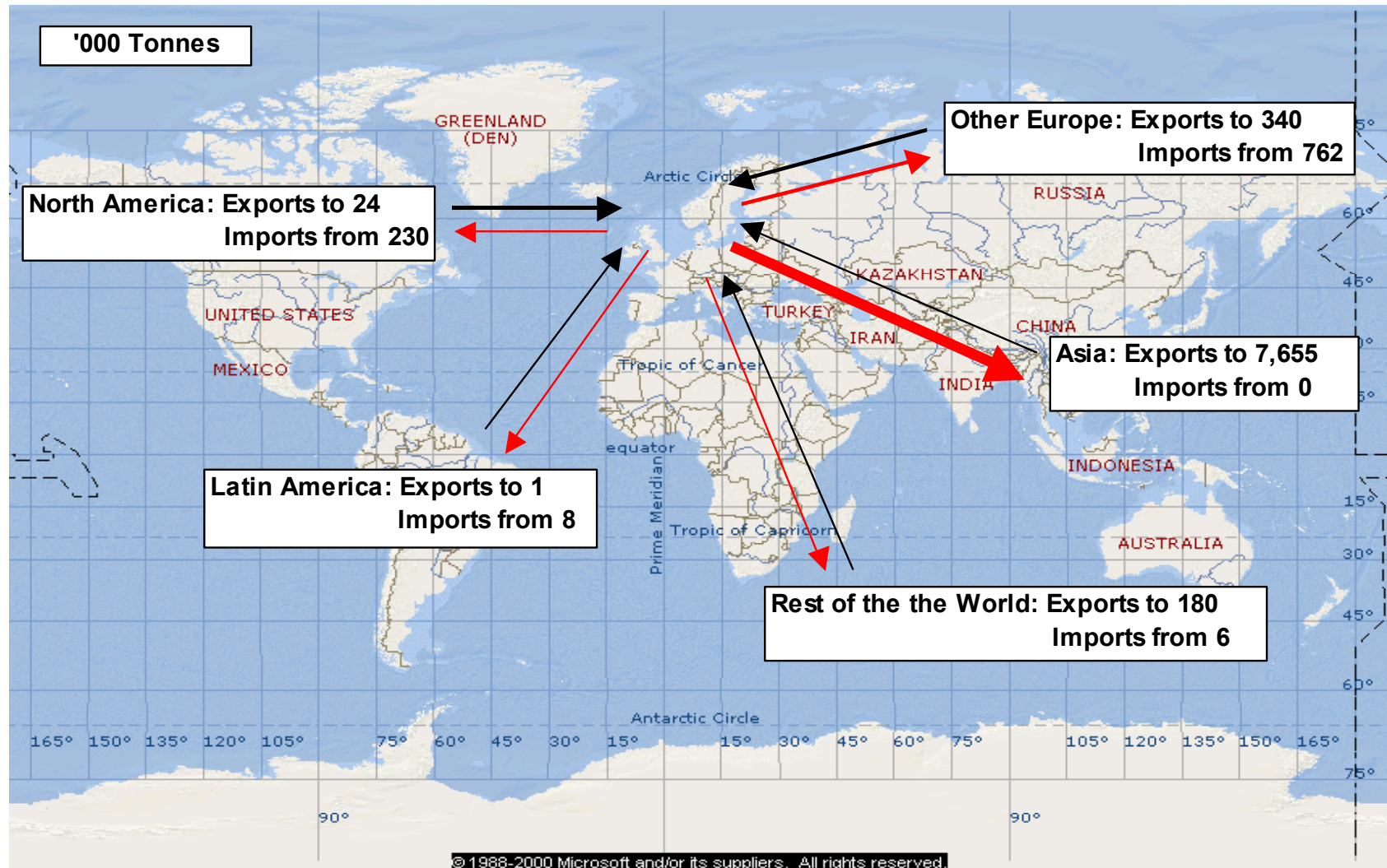
Paper and paperboard Russian Federation - Production & Consumption



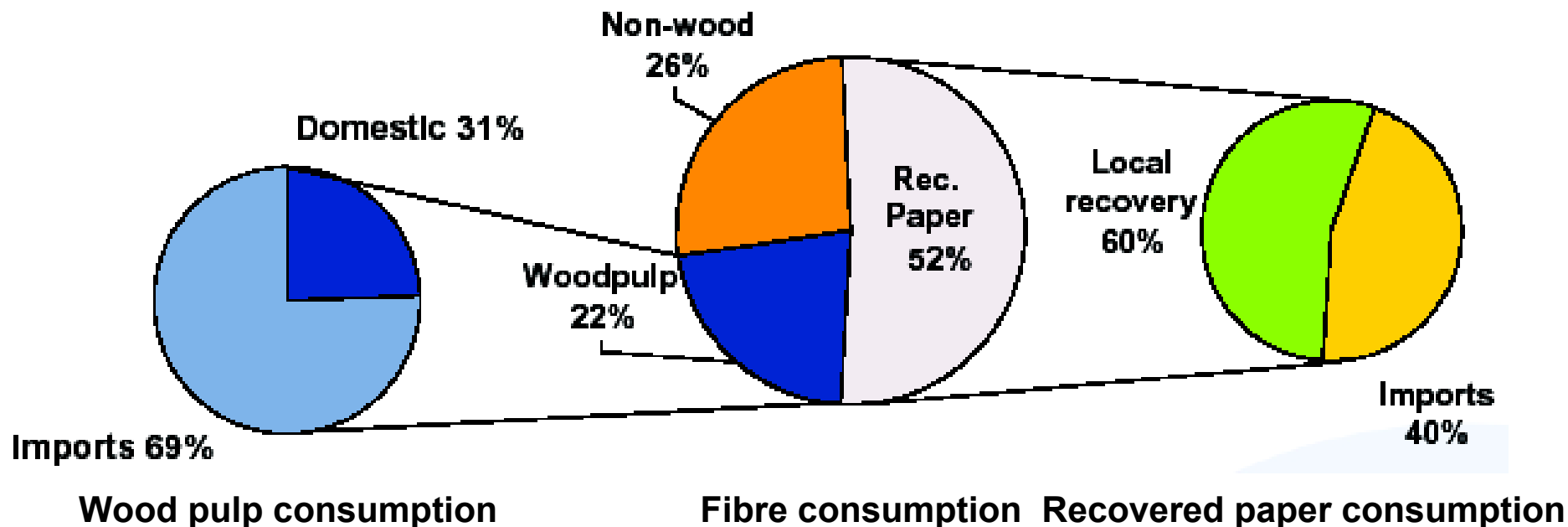
Paper and paperboard Russian Federation – Imports and Exports



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



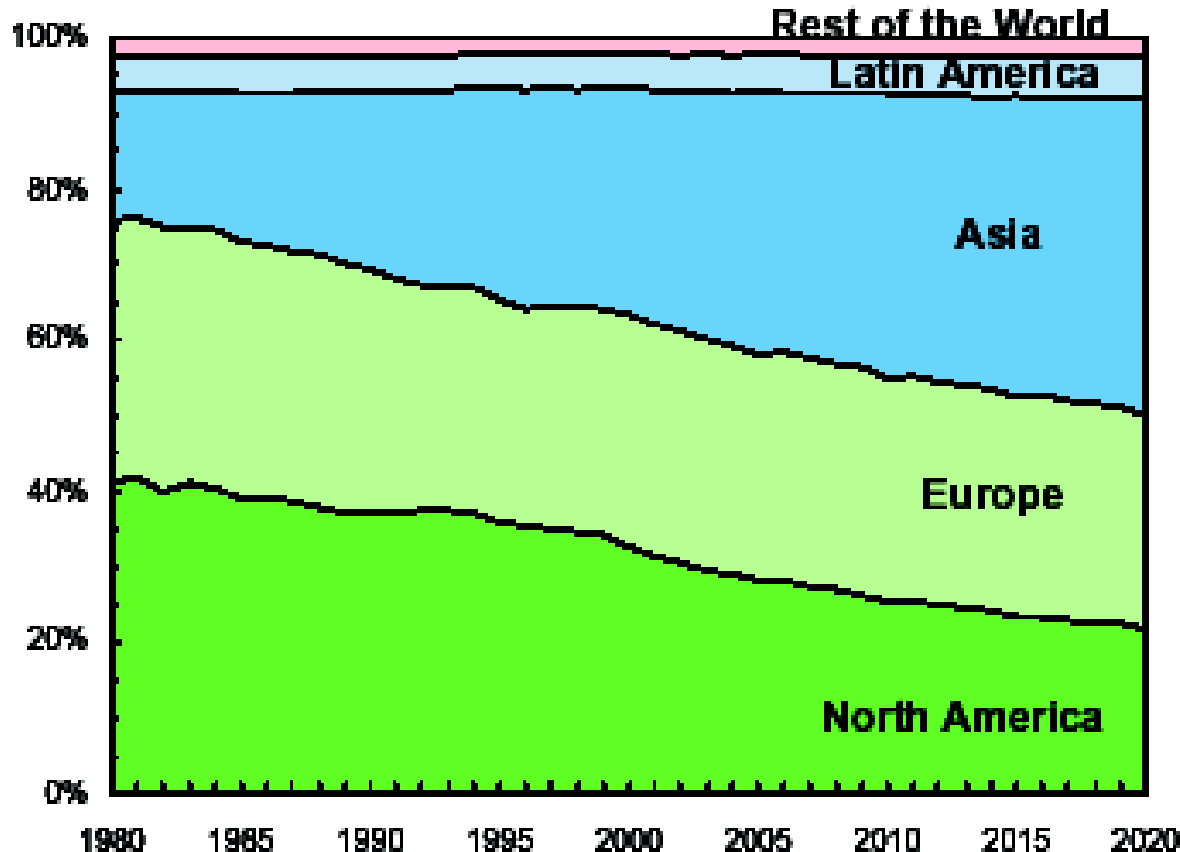
China's dependence on imported fibre



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

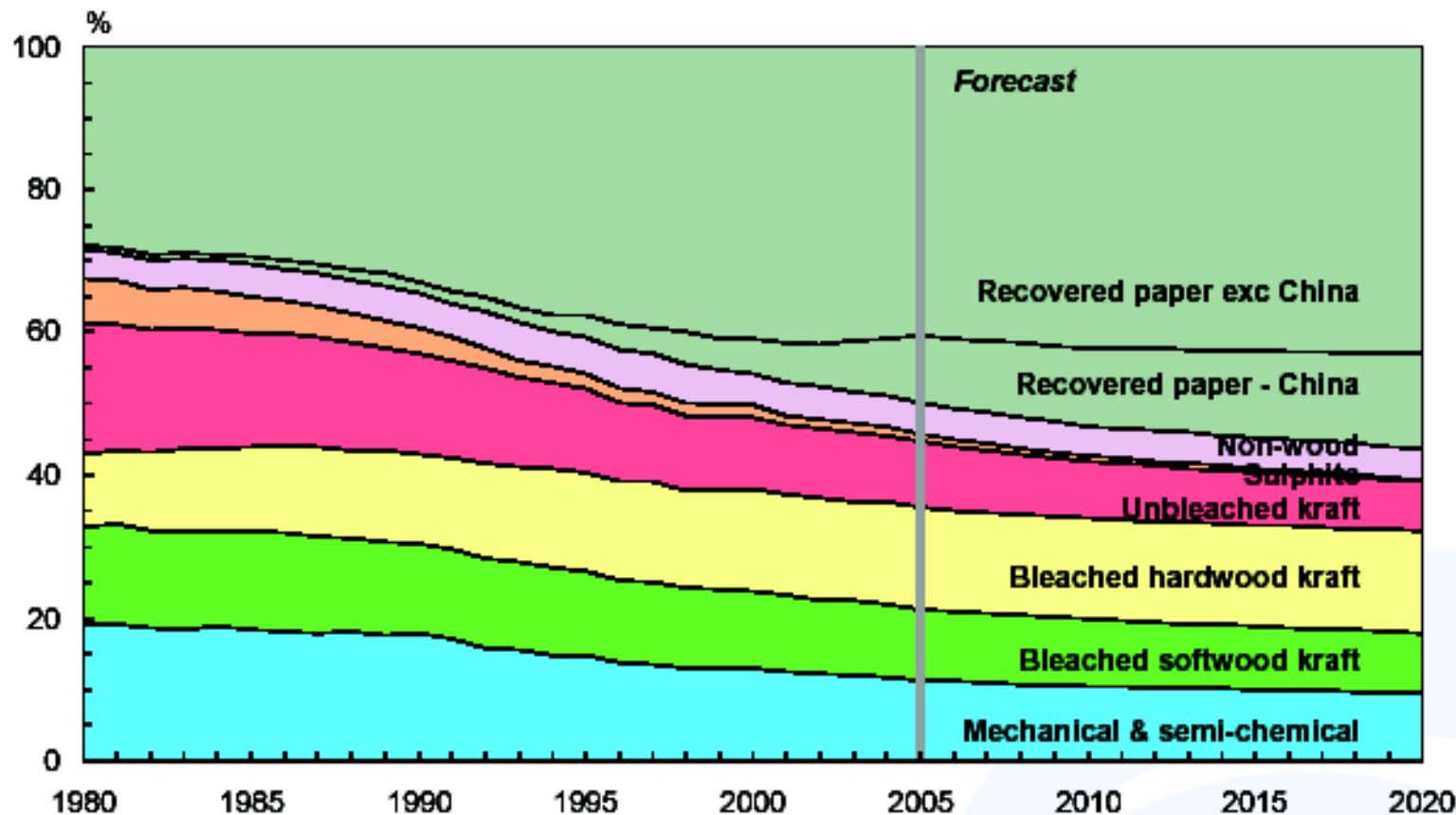
Source: Poyry

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

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

The big challenge ahead: bioenergy

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., **CO₂ 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

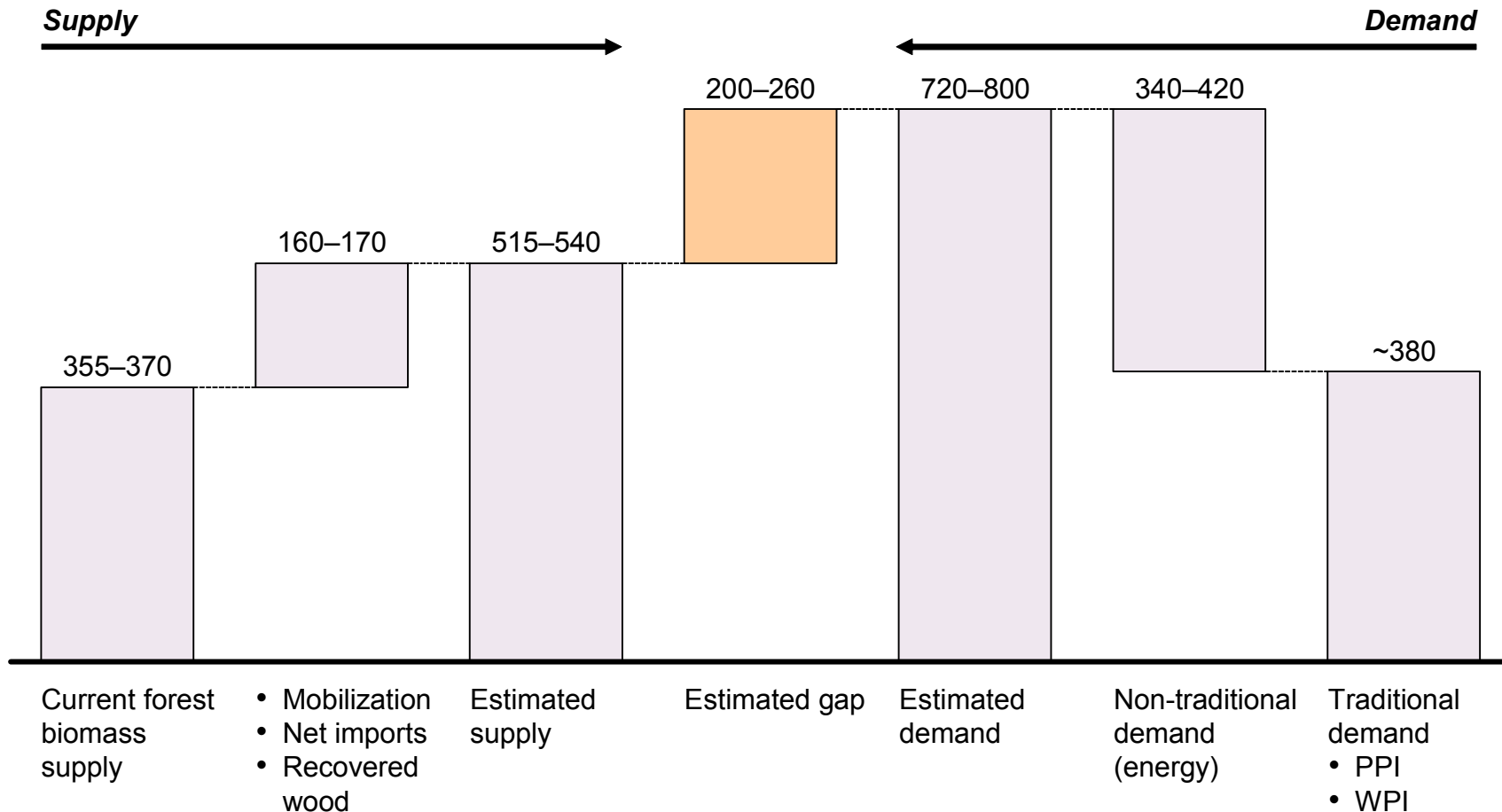
Emergence of **biofuels** for transportation

→ 10%

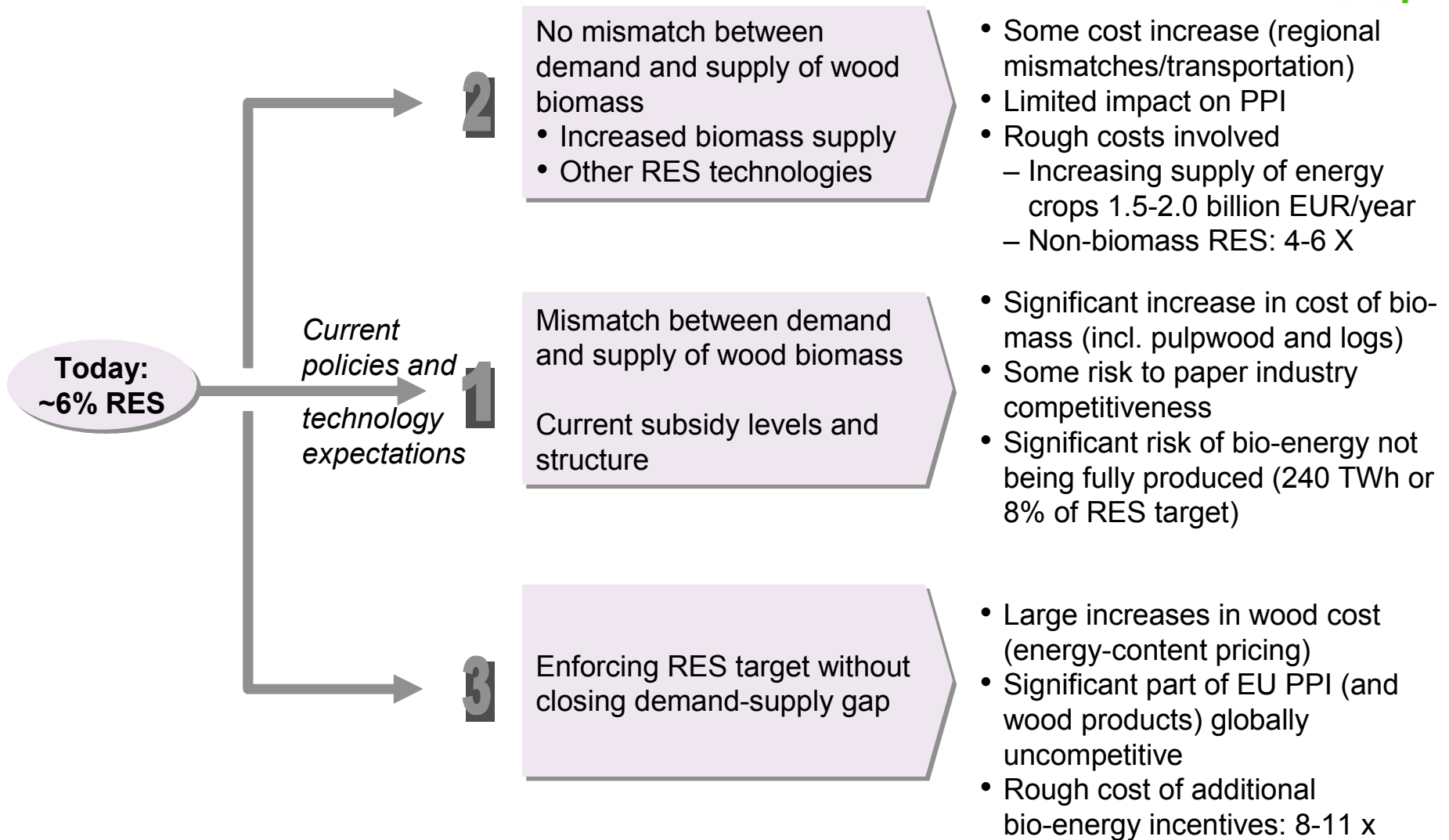
Changing competitive landscape for traditional users of wood and RP

Will wood supply match demand ?

CEPI-16, wood supply and demand; million m³ (under bark); 2020



Possible future scenarios



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...

...and can be a key enabler for reaching future RES targets

Share of country primary bio-energy production

Percent; Mtoe

SR	71	0.3
FI	68	7.4
BE	62	0.4
SE	60	7.5
PT	32	2.7
CZ	24	1.4
AT	21	3.3
ES	20	4.1
PL	12	4.1
FR	11	9.7
DE	10	6.1
UK	6	0.7
NL	2	0.7
IT	1	0.9

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

There are solutions to relief pressure

Potential
effect 2020
Million m³

“Close to home”

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

Comparison on Total Value Added Generation

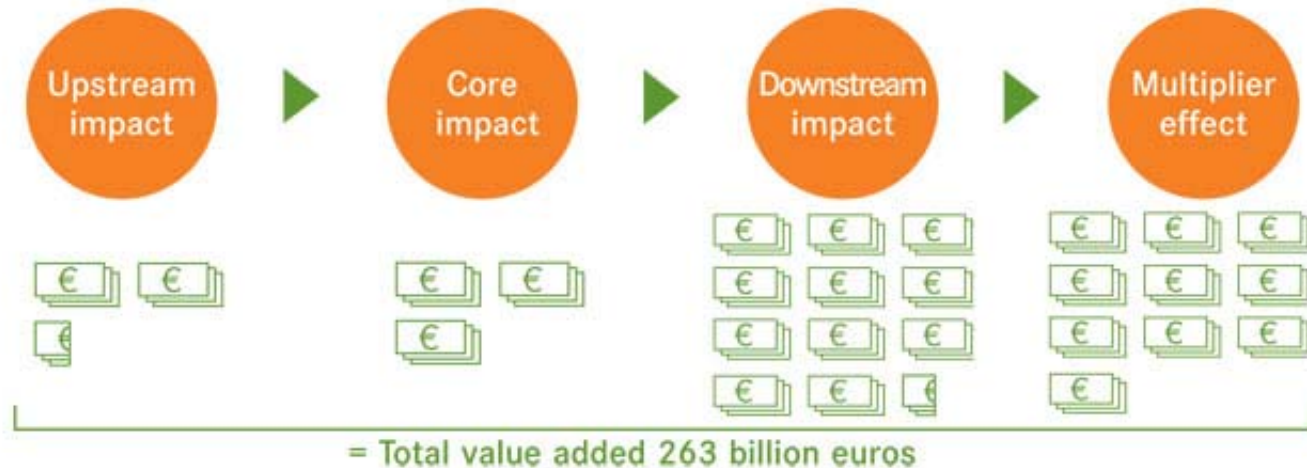
Bioenergy Production

€ = 10 billion euros



Pulp and Paper Industry

€ = 10 billion euros



Ways forward: focus on keeping jobs


Total Employment Generation

Bioenergy Production

 = 20 000 man years



Pulp and Paper Industry

 = 20 000 man years

