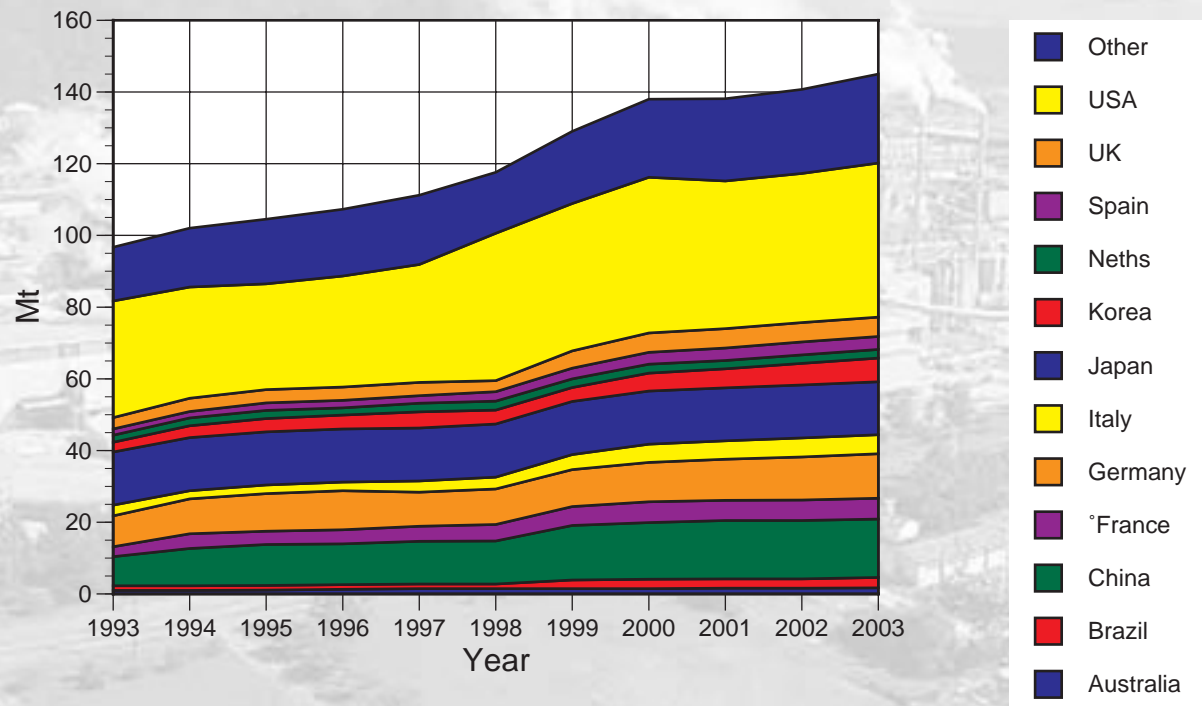


# Brian Stafford & Associates Pty Ltd

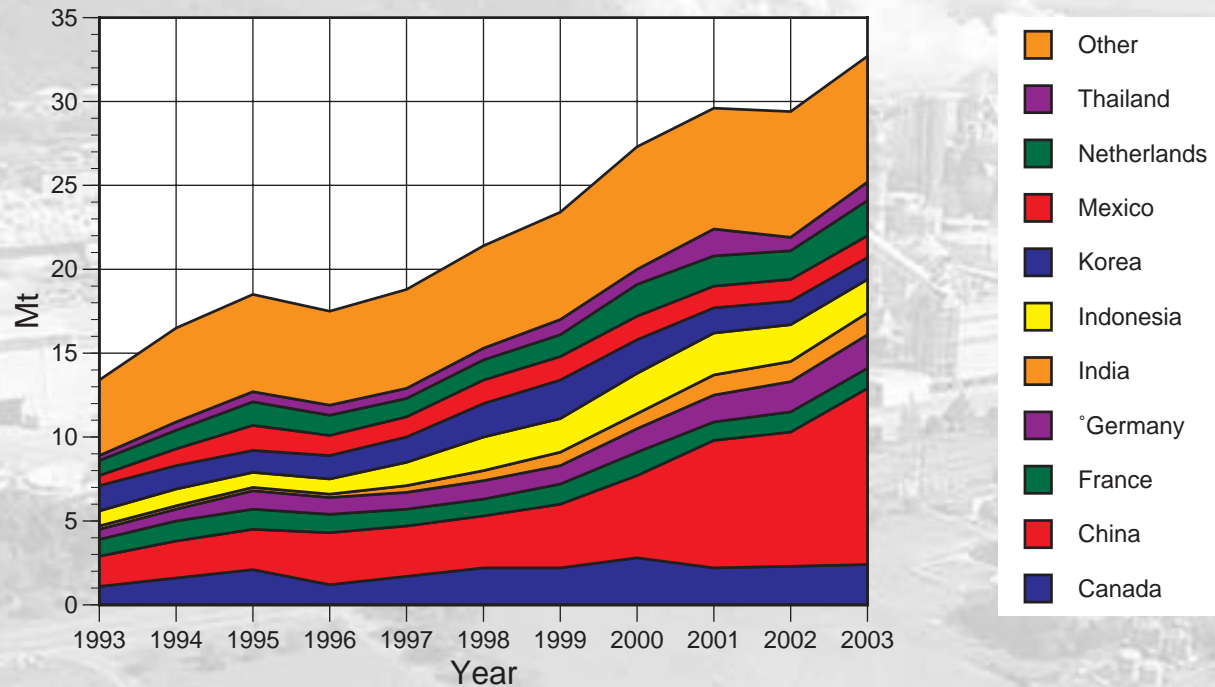
Consultants to the Pulp & Paper Industry

# World Wastepaper Production



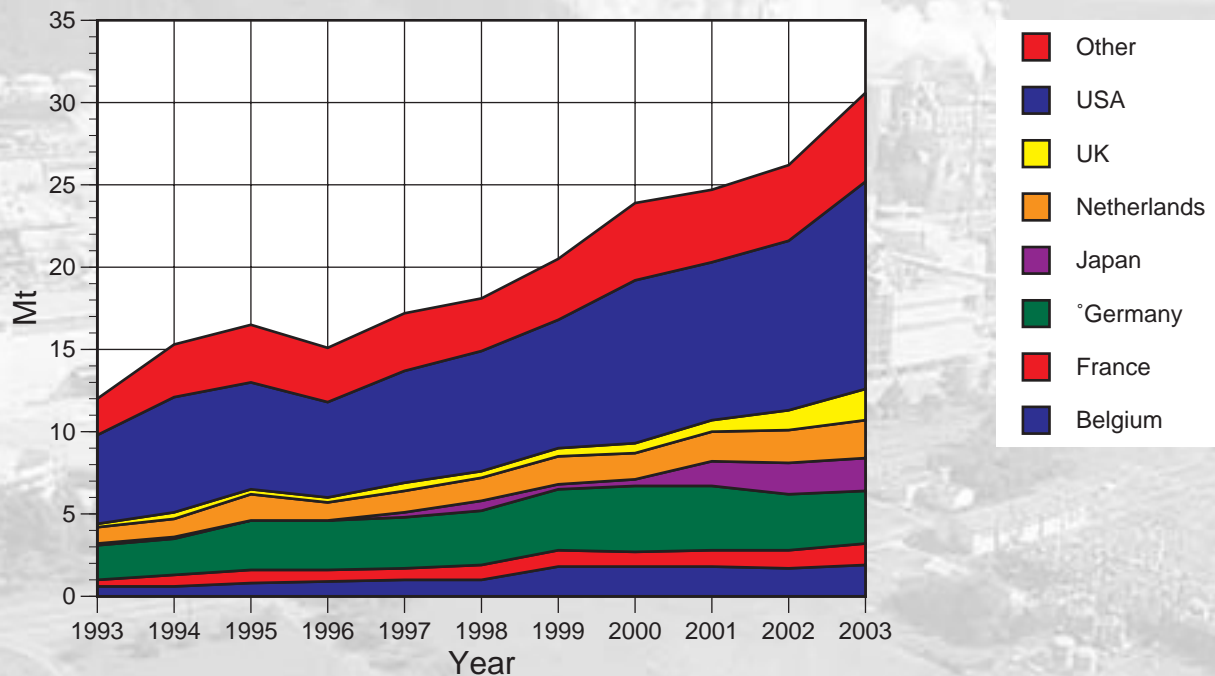
- World WP Production growing at 4.1% pa.
- Largest producers are USA, Japan & China.
- Of the largest producers, fastest-growing are developing countries.
- Brazil +8.4% pa. China +7.3% pa, Korea +9.4%.
- But quality poor (often high vegetable fibre content), depend on wood-based imports from developed countries.

# World Wastepaper Imports



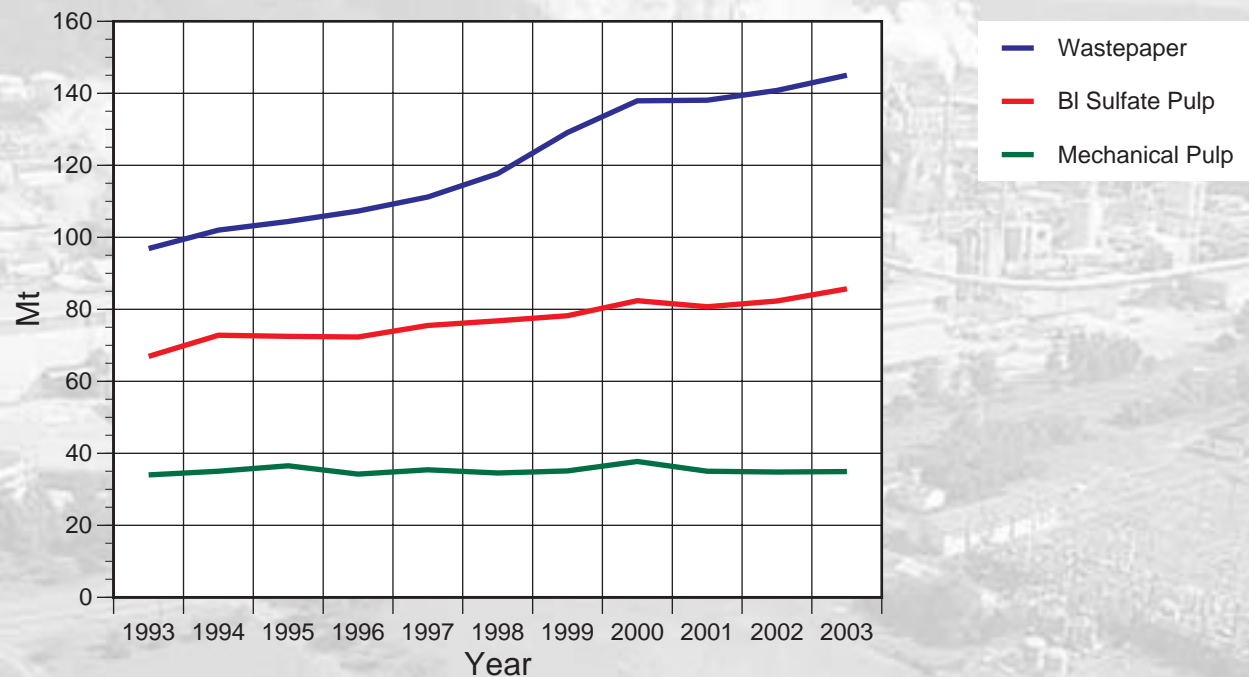
- World WP Imports growing at 9.4% pa – from 13.4 Mt in 1993 to 32.8 Mt in 2003.
- Obvious that China is driving growth – Imports expanding at 19.4% pa – 2003: 10.5 Mt (2004: 12Mt+?).
- Other double-digit countries: Germany (+13.5%pa) India (+20.8%pa) & Thailand (+12.3% pa).
- More than half world imports are into Asia countries.

# World Wastepaper Exports



- World WP exports growing at 9.9% pa.
- Largest exporter by far is the USA – from 5.4 Mt to 12.6 Mt in a decade.
- Largest customer by far is China.
- Papermakers control WP price in Japan . Has led to massive increase in exports - fastest growing exporter +44% pa  
- cf. USA: 8.9% pa, but UK also growing at +27.5% pa.

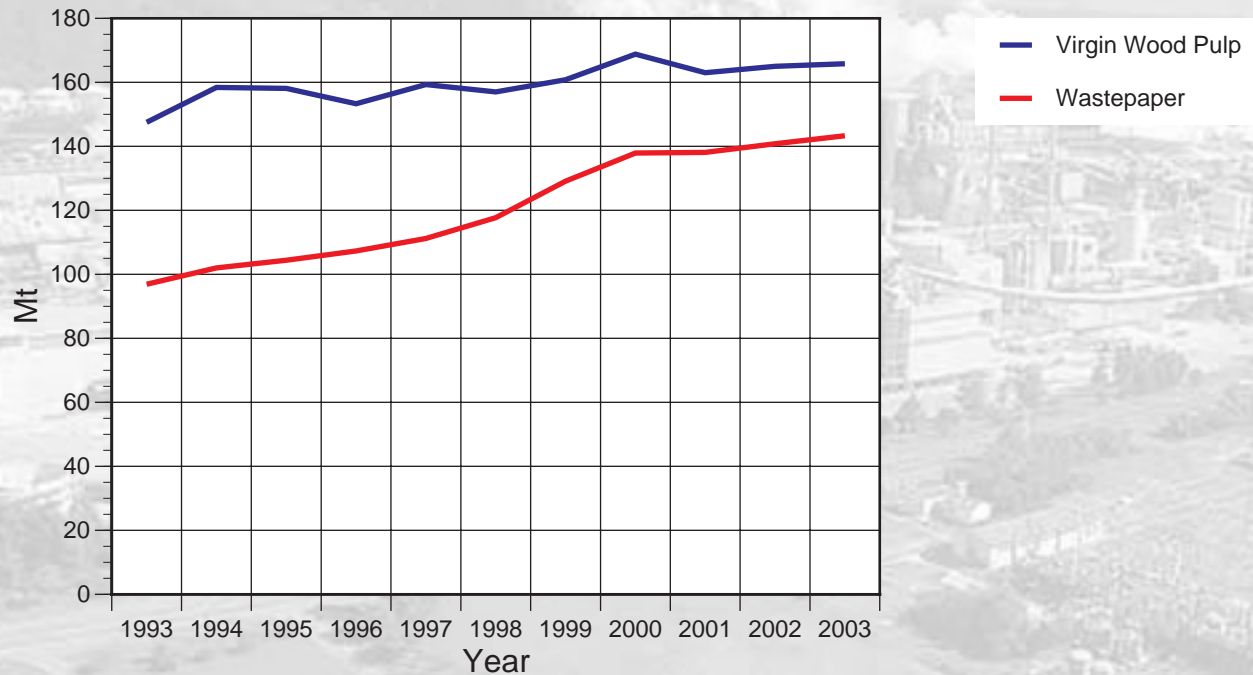
# BSP vs. Mechanical Pulp vs. Wastepaper



- At 145Mt of production, WP is by far the single largest furnish component and growing the fastest (+4.1% pa).
- By contrast, Bleached Sulfate Pulp, at 86Mt (in 2003) is only 60% of wastepaper and growing at only 2.5% pa.
- Mechanical Pulp is only 35 Mt and has put on only 1 Mt in the decade to 2003 – a growth rate of 0.2% pa.
- Volumes so far mainly Packaging & Mechanicals ‘low hanging fruit’.
- Mechanicals and Packaging Paper & Board have high recycling rates because of their ease of retrieval from kerbside and down supermarket salvage chains. Office paper is much more difficult.
- Whilst valuable, office paper, is available in only small quantities from difficult locations + often contaminated.

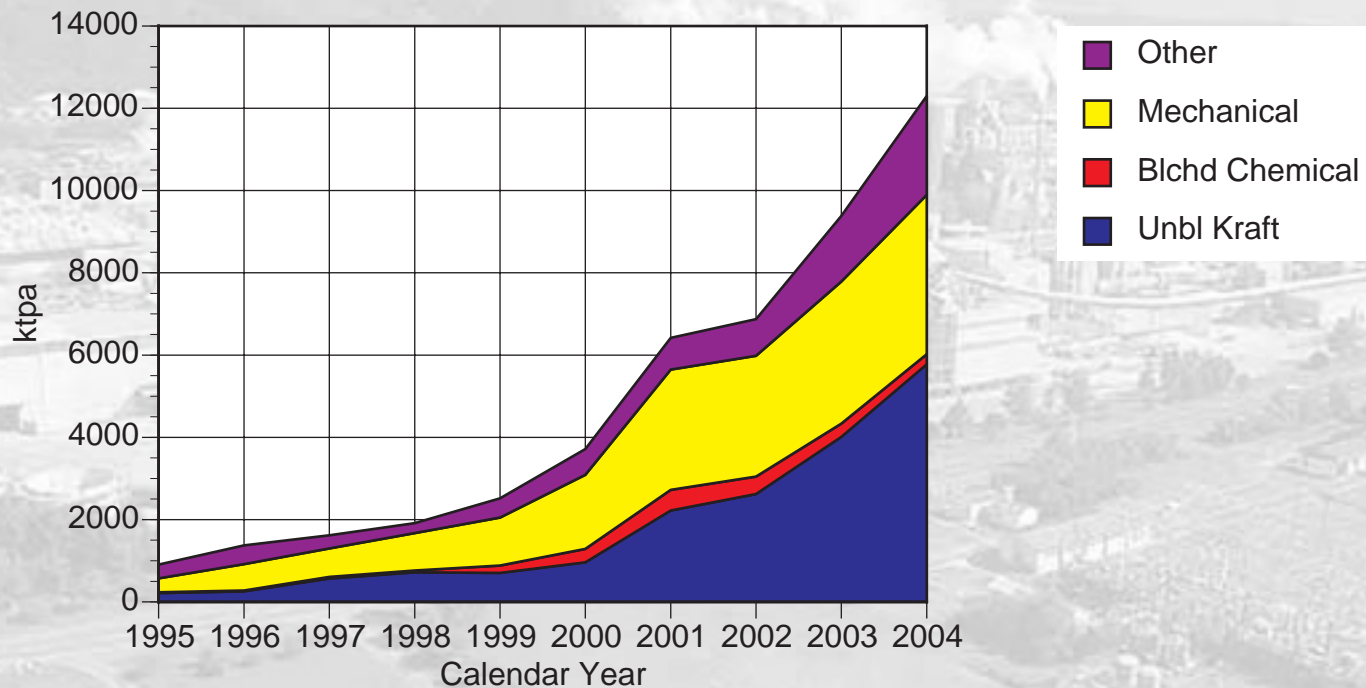


# Virgin Wood Pulp vs. Wastepaper



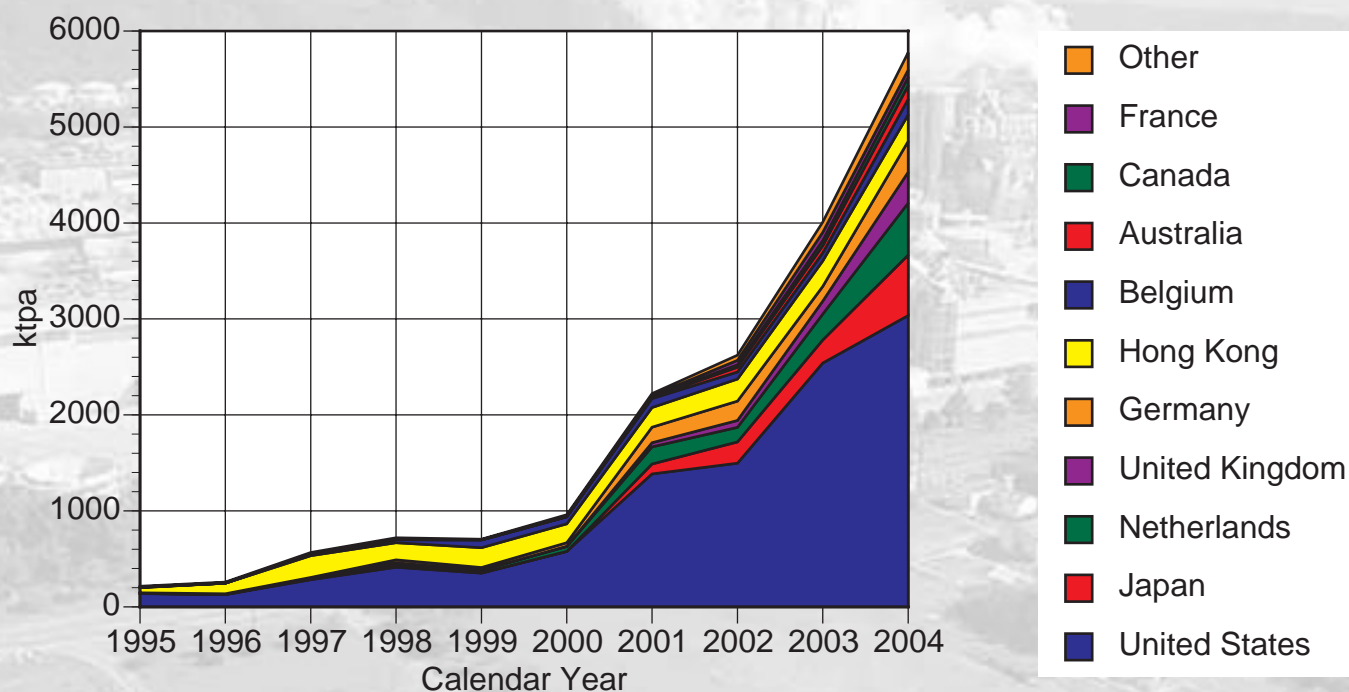
- Total Virgin Wood Pulp has grown from 148 Mt in 1993 to 166 Mt in 2003 – at 1.3% pa.
- Total Wastepaper production has grown from 97 Mt to 143 Mt over the same period – at 4.4% pa.
- According to Jaakko Poyry, global fibre demand will rise by 126 Mt over the decade to 2015.
- A massive 71% of that demand will be met by wastepaper.
- Consumption is expected to rise by 90 Mt over the next ten years.
- Wastepaper will exceed virgin wood pulp as a furnish component by 2015.

# China's Total Imports of Wastepaper



- China's total imports of WP have grown almost exponentially - annual average rate of increase has been 33.6% pa
- Volume has grown almost thirteen fold from 906 ktpa in 1995 to 12.3 Mt in 2004
- Value of the trade is now USDFob 1.7 bn - ten times what it was nine years ago
- Most urgent need is for packaging material
- Made up 47% of imports in 2004
- Next largest is Mechanical WP – 31% of imports in 2004

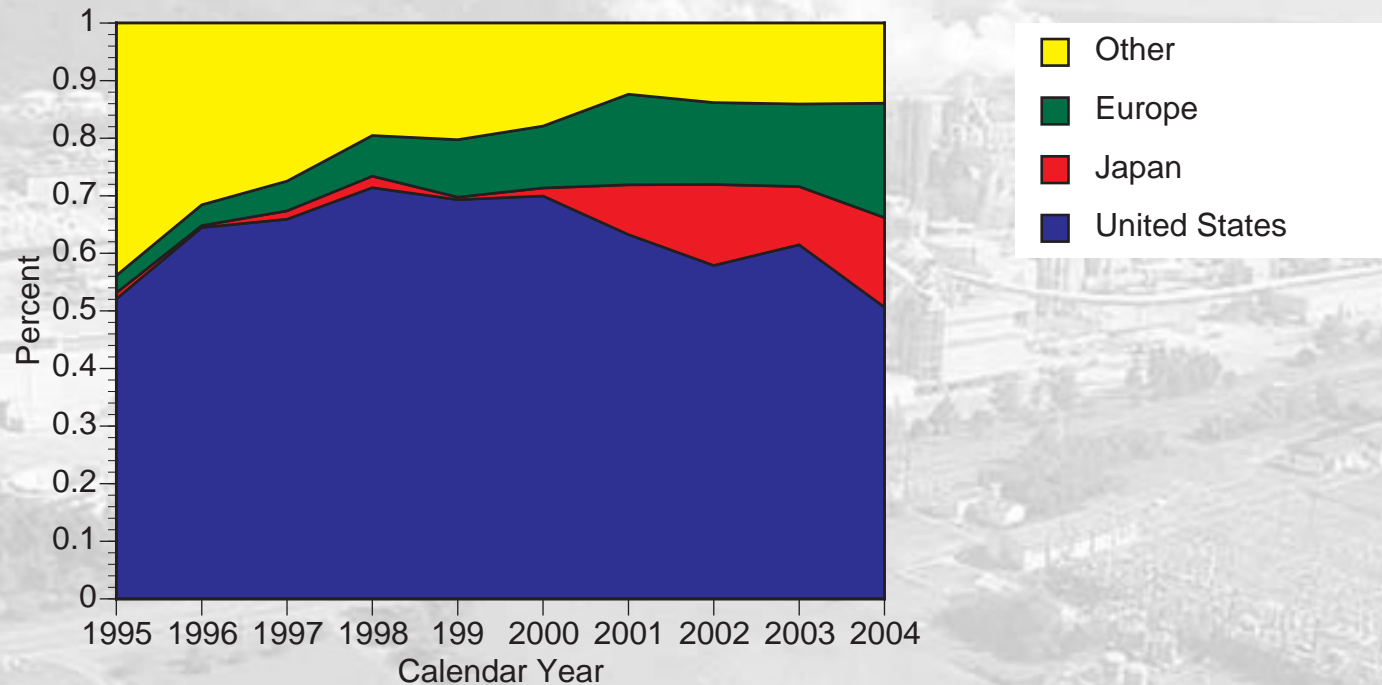
# Imports of Unbleached Kraft Wastepaper



- Largest import grade – 51% of total
- Shipments have grown at 44.2% pa over last nine years
- United States is by far the largest single supplier.
- Japan is next followed by the Netherlands

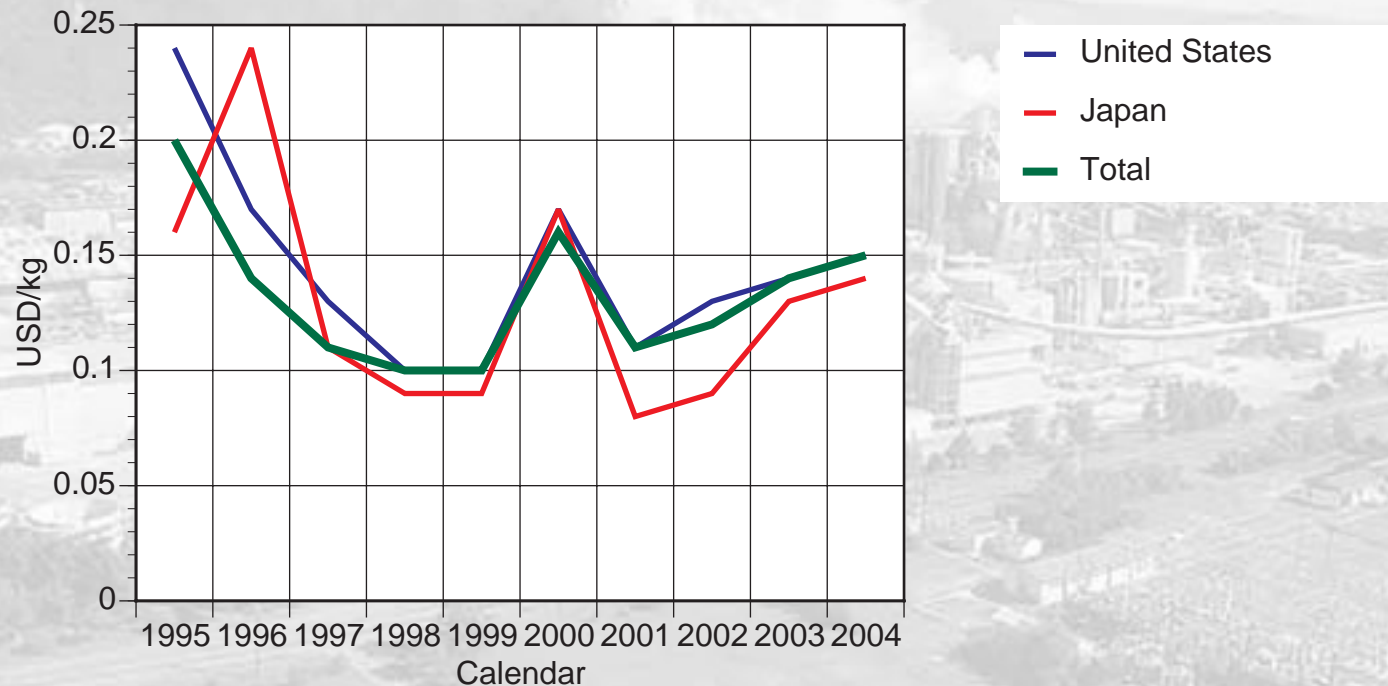


## Imports of Unbleached Kraft WP - Main Sources



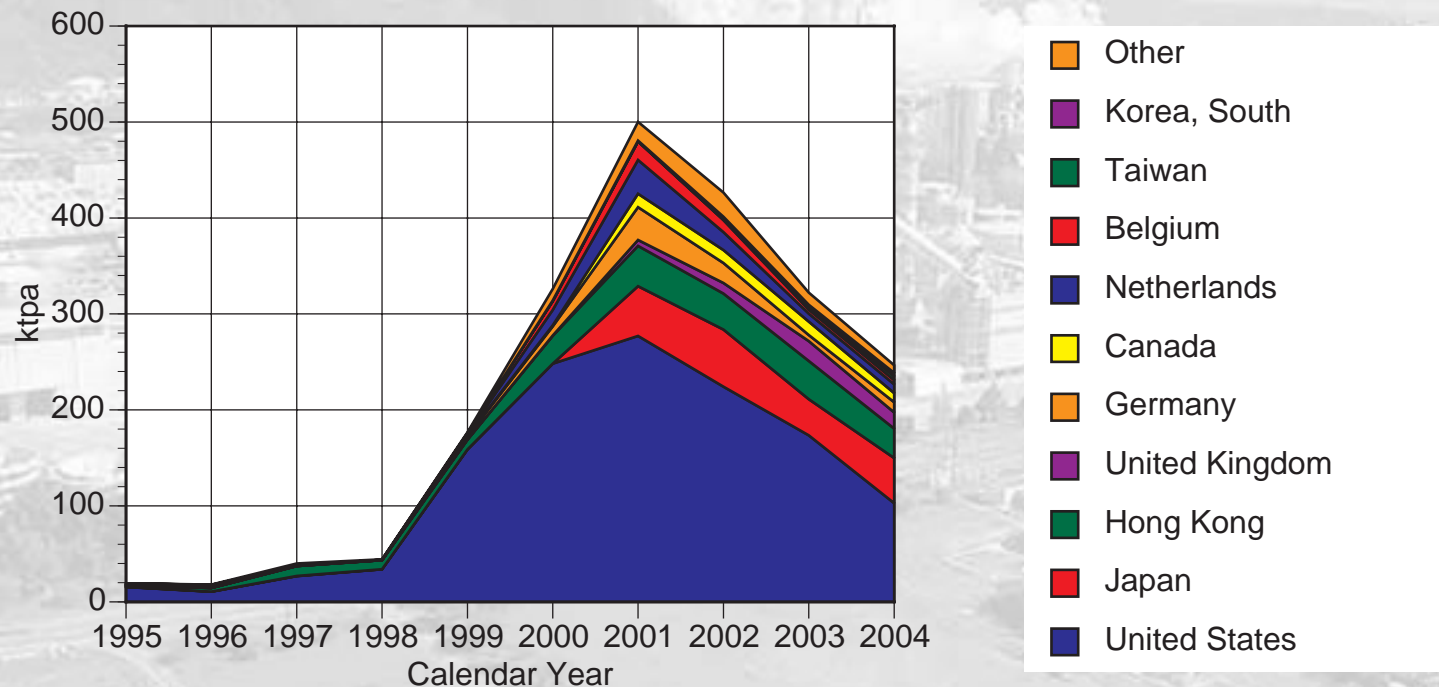
- In 2004 USA supplied 5.8 Mt
- Represented a 47% share of the trade – down from 71% in 1998
- Europe is second biggest supplier
- 20% share in 2004 – up from just 14% in 2003.
- Japan third largest, but fastest growing share - now 16% - up from 1% just 4 years ago

## Imports of Unbleached Kraft WP - Pricing



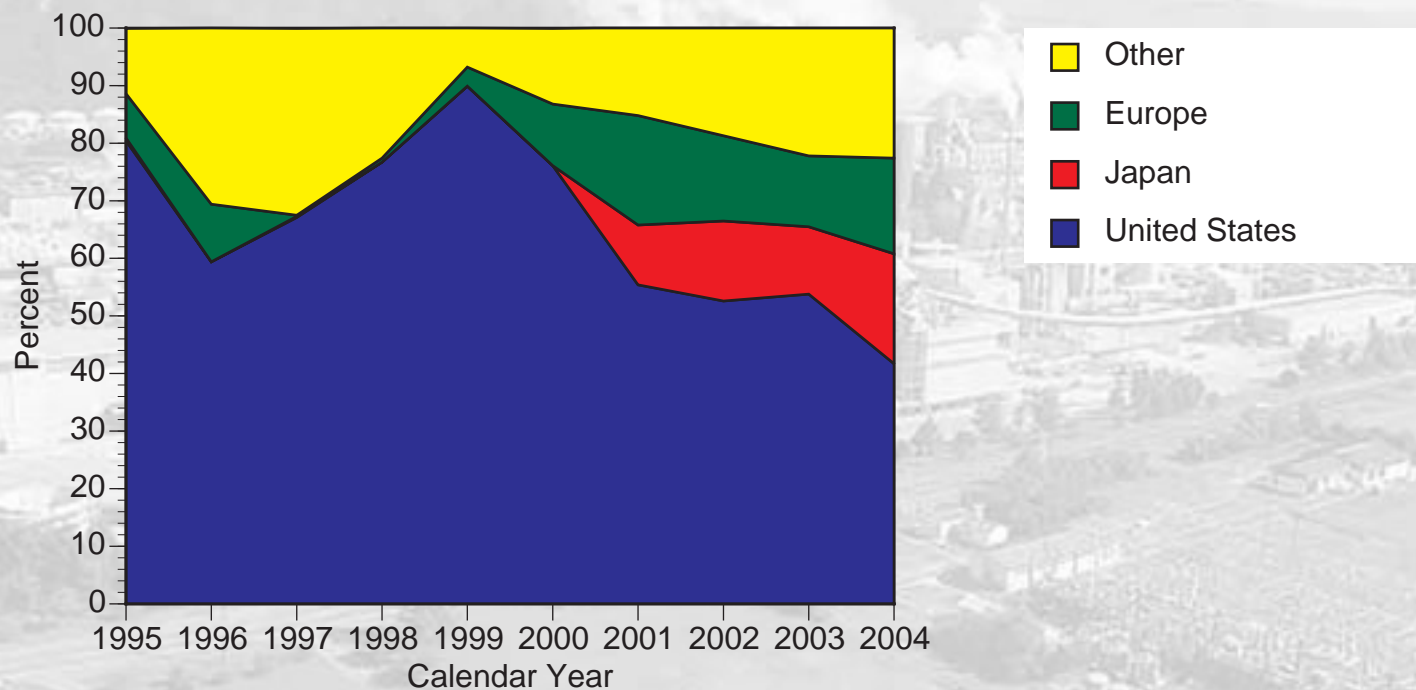
- 25% decline in money prices across the decade
- Average price halved prior to 2000 as supply exceeded demand
- 2000 peak due to short-lived global price boom
- Prices have since recovered and trend is upward - 36% last three years
- Inference is demand is now exceeding supply

# Imports of Bleached Chemical Wastepaper



- By far the smallest market – only 2% of WP imports
- Import pattern is contrary to trend in other grades
- Declining demand could be linked to continuing weak pulp prices, but prices are rising faster than for other grades - see below
- Also requires more capital investment to process - cf unbleached kraft
- Nevertheless, between 1995 & 2004 growth rate of +33%.

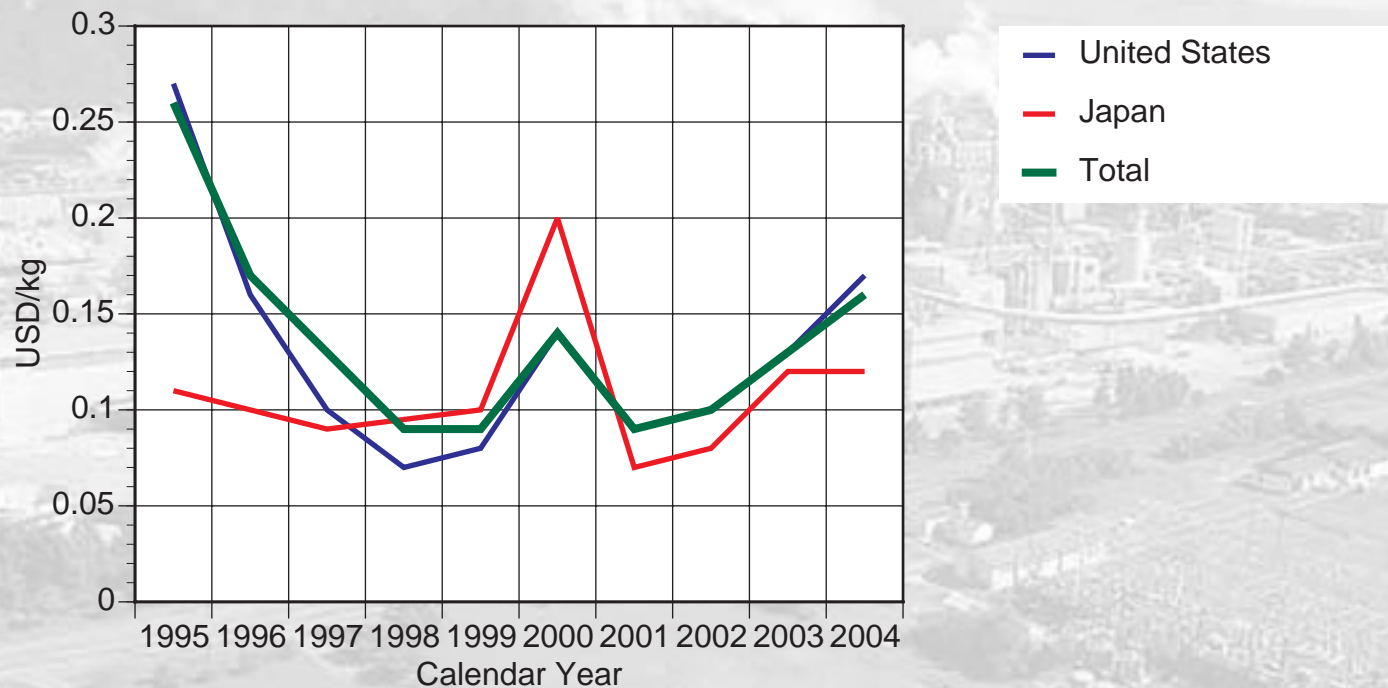
## Imports of Bleached Chemical WP – Main Sources



- USA is declining as the main source - now only 42% of supplies
- Down from 80% in 1995
- European suppliers have built up 17% share over last six years
- Japan is quite recent entrant
- Since 2000 has gained 19% of the market



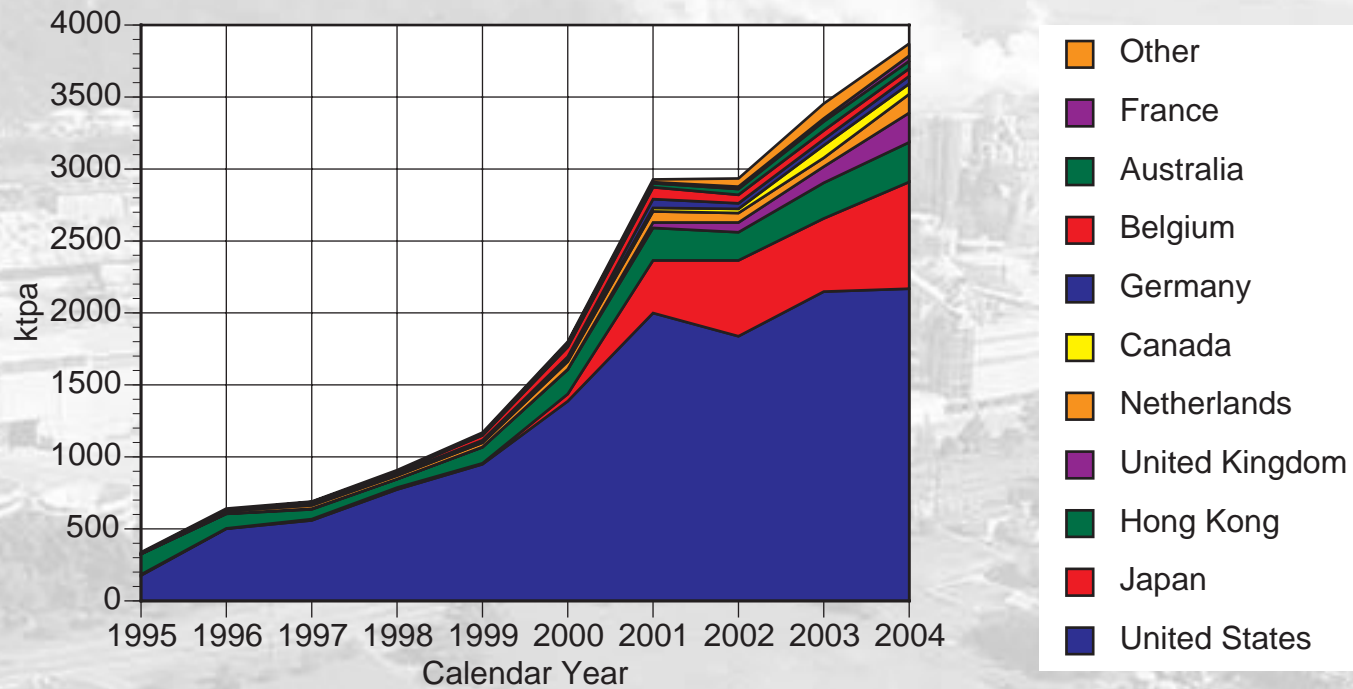
## Imports of Bleached Chemical WP – Pricing



- Average prices fell further and rose less as a result of 2000 boom
- Increase since then has been slightly higher

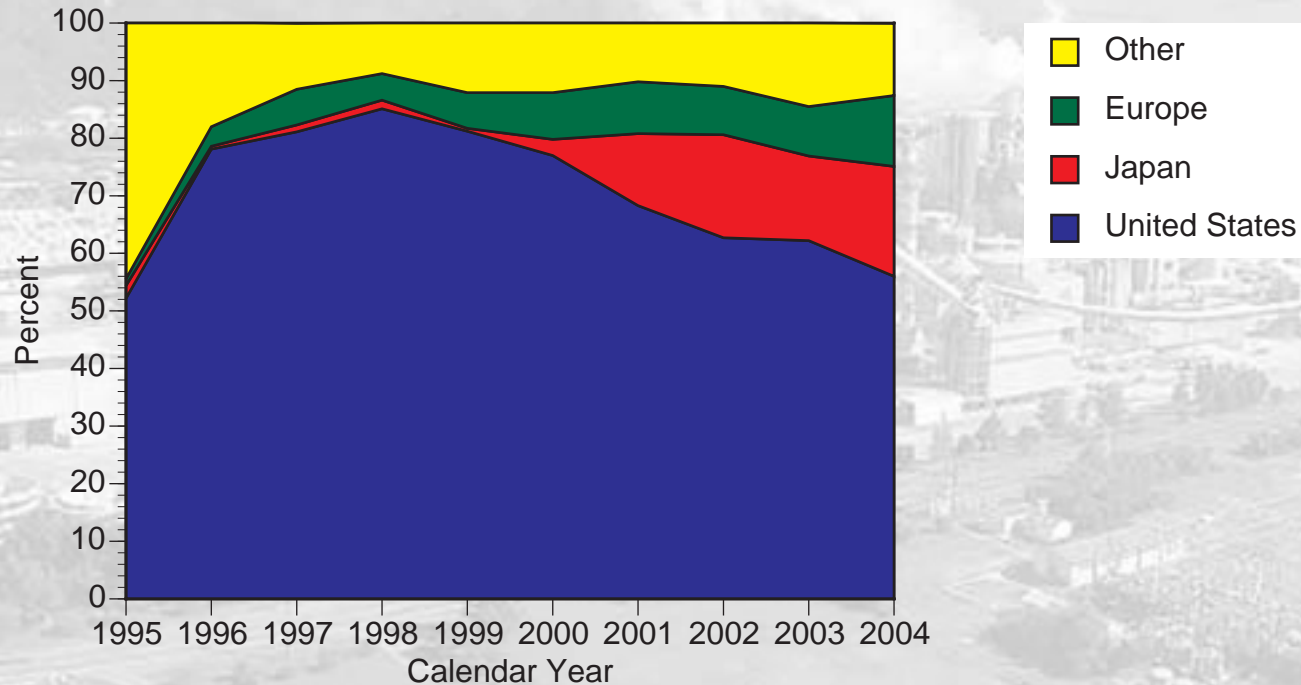


# Imports of Mechanical Wastepaper



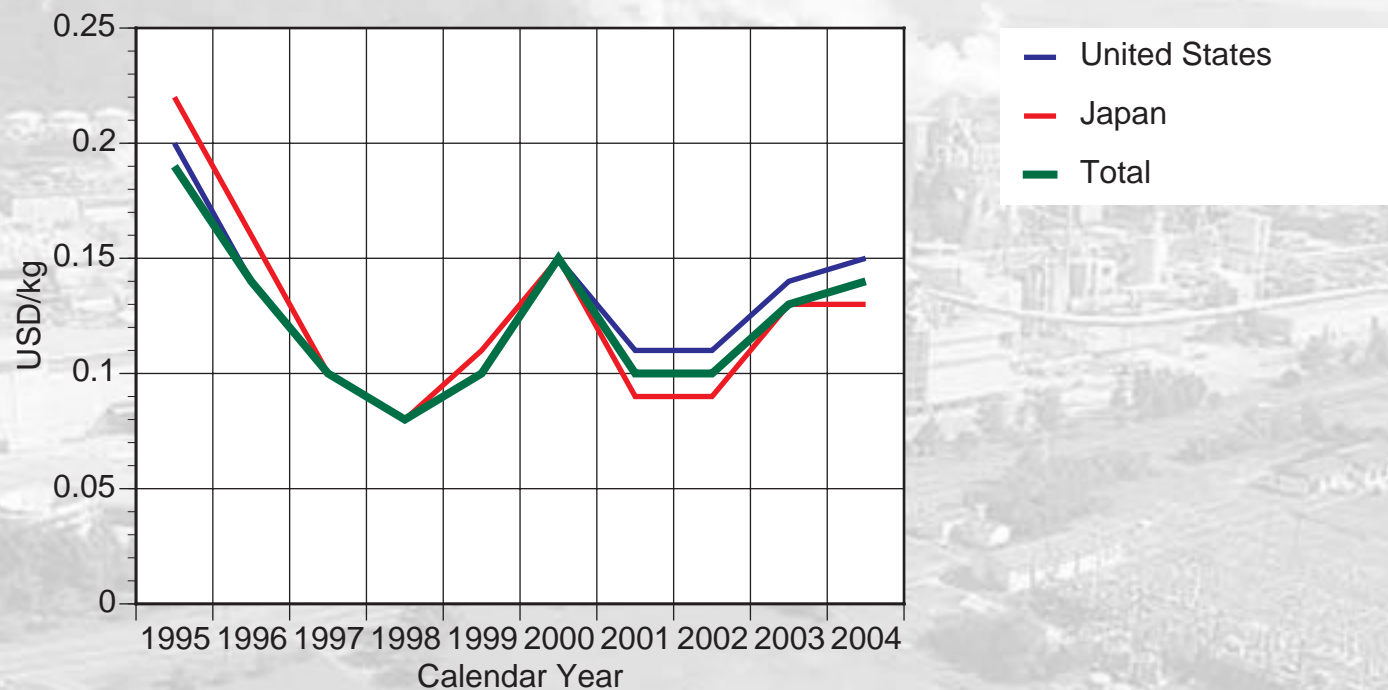
- At 3.9 Mt in 2004, the second largest import market for WP
- Shipments rose rapidly up to 2001 - at 43% pa annual average
- Growth resumed in 2003 since and market has put on 937 kt since then

## Imports of Mechanical WP - Main sources



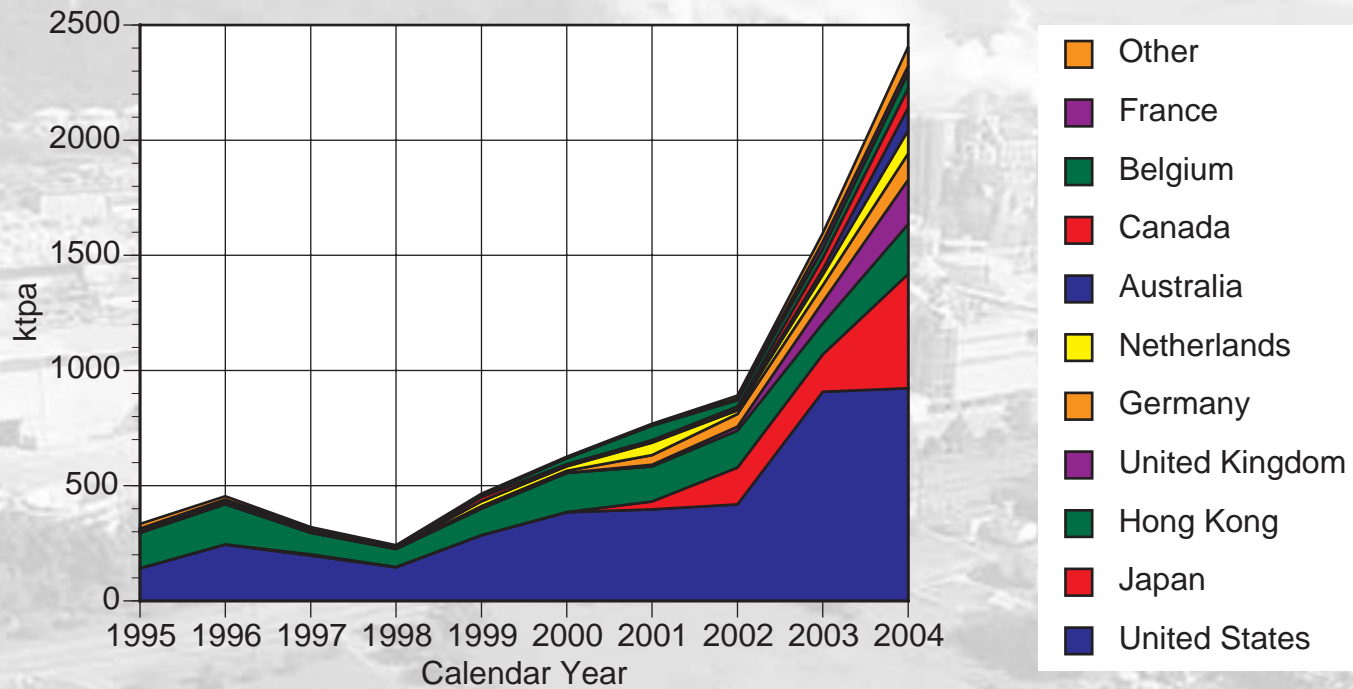
- USA market share has fallen from 85% in 1998 to 56% in 2004
- But still ahead of 52% held in 1995
- European exporters have been less successful in this grade
- Market share is only 12.3%
- Japan, on the other hand, has gained a 19% share up from <1% five years ago

## Imports of Mechanical WP - Pricing



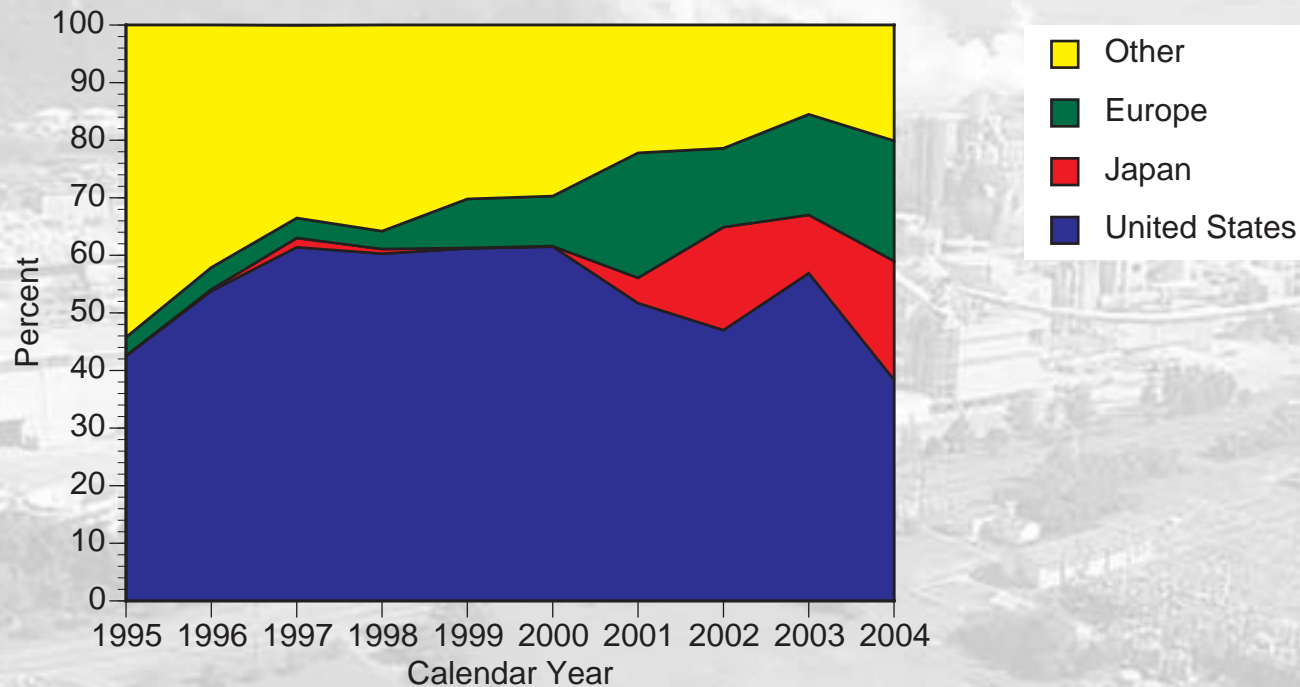
- Pattern is the same as other grades
- Post 2000 less volatile
- Suggests more contractual and less spot buying

## Imports of 'Other' Wastepaper



- At 2.4 Mt 'Other WP' is third largest import grade
- Growth pattern is the same as Unbl Kraft & Mechanical
- Growth rate, however, is 'only' 25% pa.

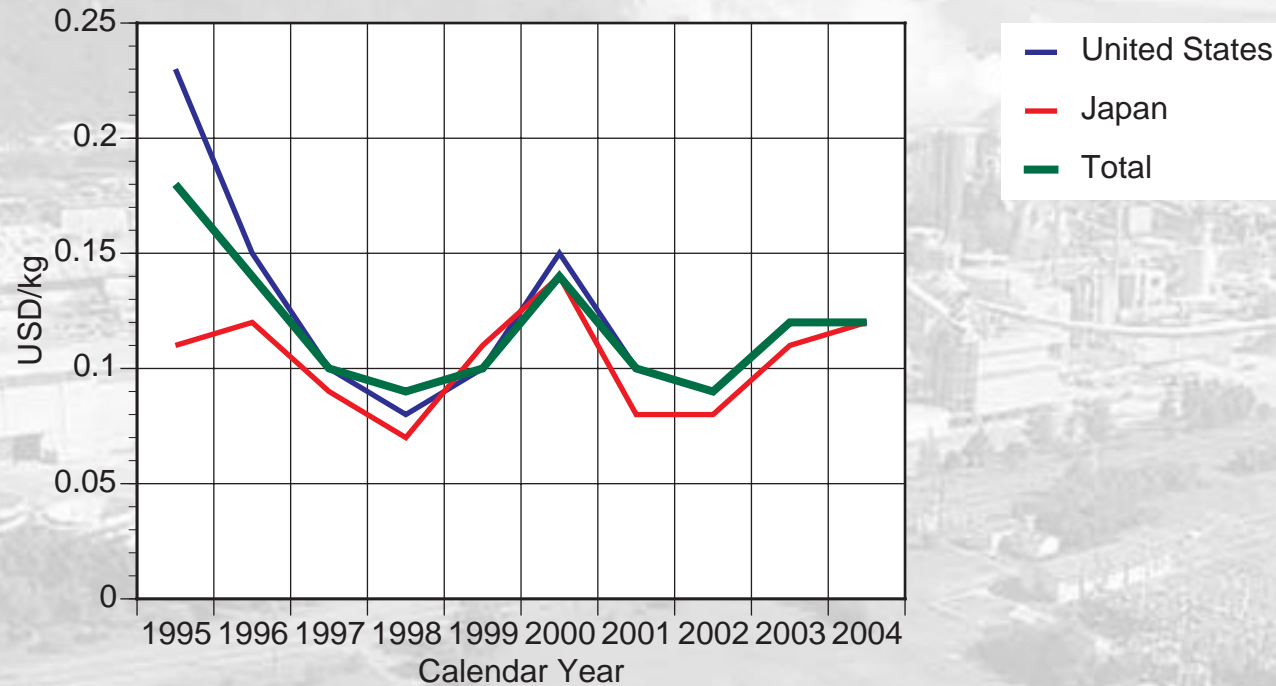
## Imports of 'Other' WP by Main Source



- USA is losing market share to Europe & Japanese suppliers
- Highest share 62% now down to 38%
- European suppliers very successful - now hold 21%
- But Japan has secured 21% as well, doubling its share over the last twelve months

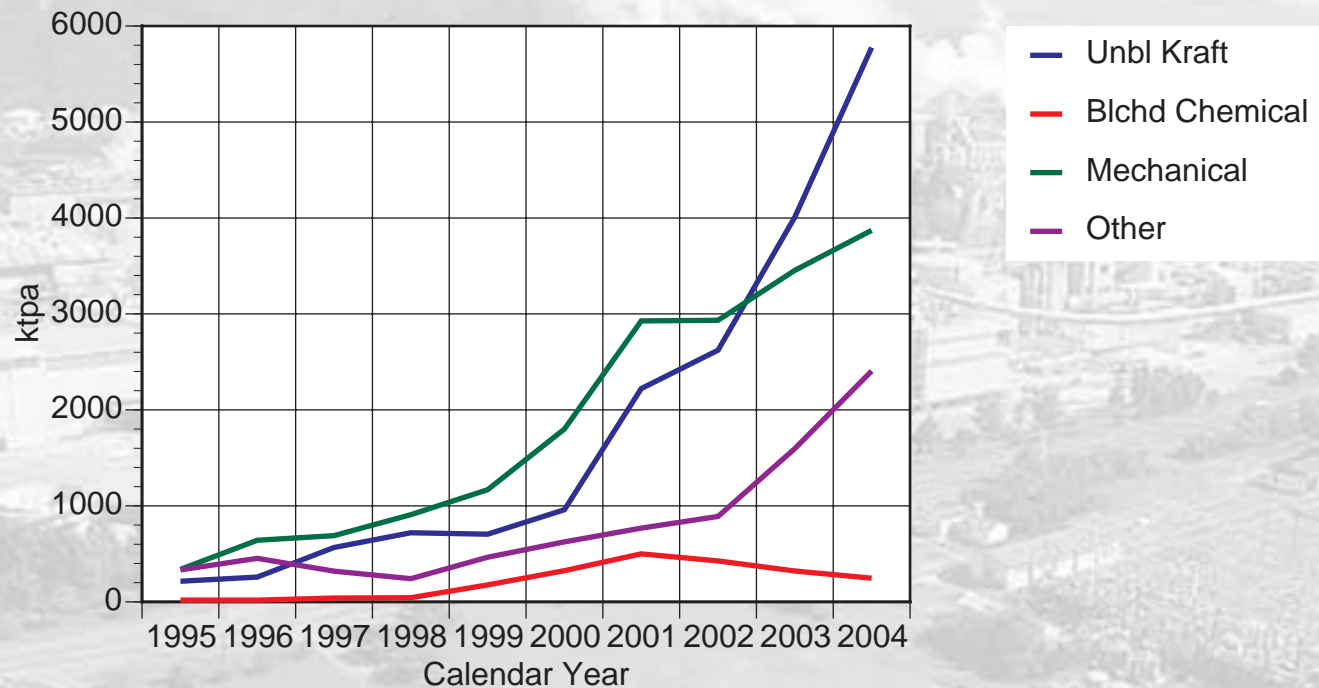


## Imports of 'Other' WP – Pricing



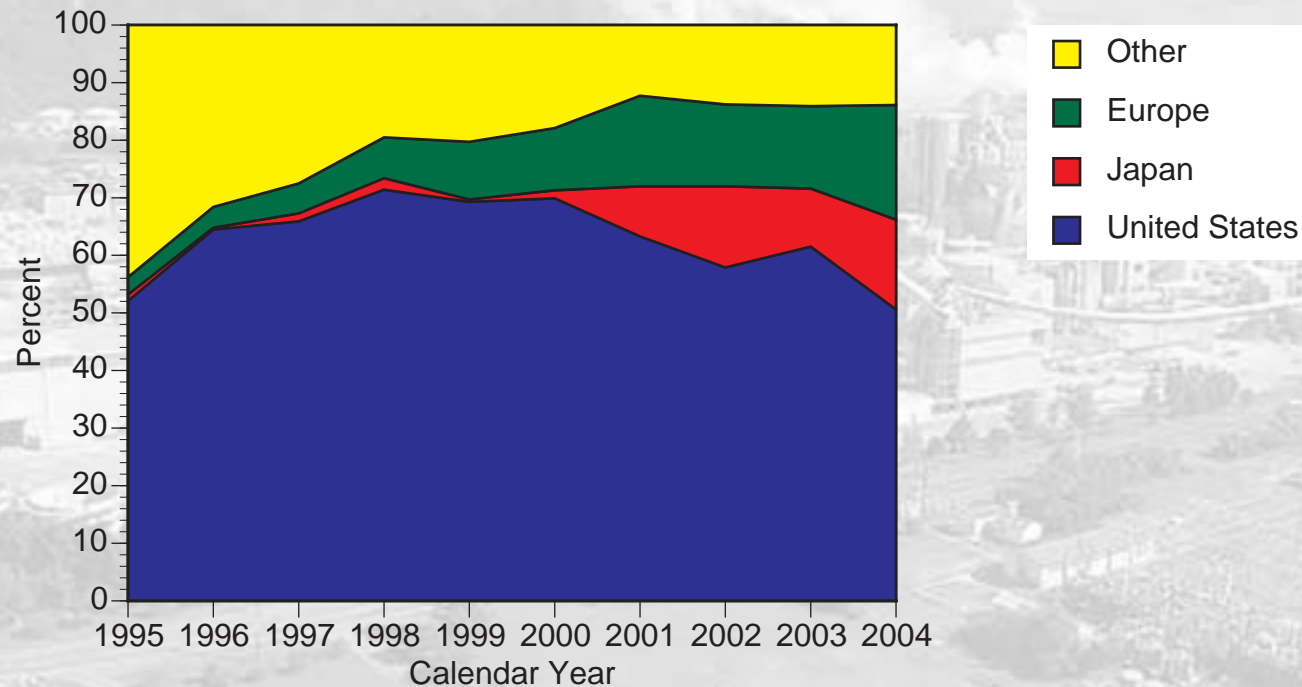
- Cycle is the same, although, again, fluctuations are more muted

# Grade Growth - Comparative Analysis



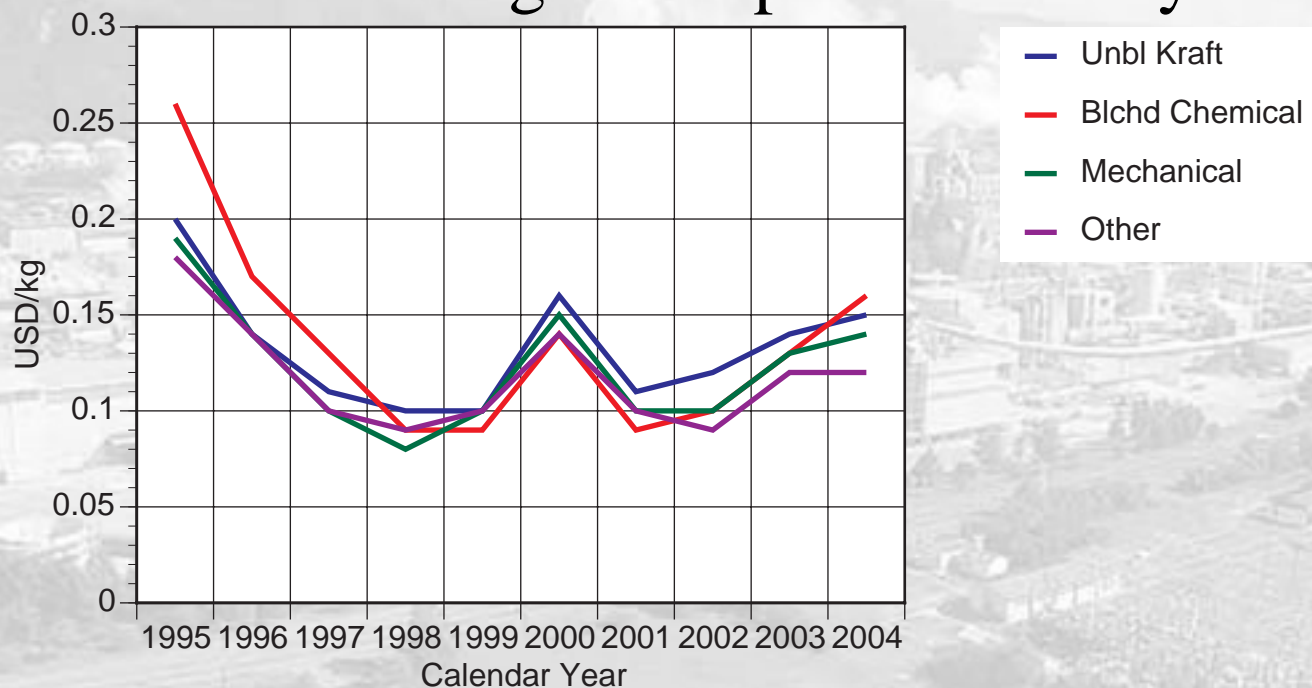
- Comparison demonstrates China's hunger for packaging grade wastepaper
- Unbl Kraft is far and away most important
- Mechanical has been important but is showing signs of slowing
- On the other hand, 'Other' which is a mixed grade that can be used for container material production is showing a growth spurt
- Demand for WP for printing & communication paper production is declining

# Overall Market Shares



- USA dominance is being eroded
- Peak market share was 70% in 2000 - now 51%
- Japan & Europe have combined to take share off USA and other suppliers
- Japan has smaller share of the two (16%, cf Europe 20%), but it is growing faster
- Up from <1% in five years

## Grade Pricing - Comparative Analysis



- Surprising how closely grouped prices are: from USDFob120 – USD160/t regardless of grade
- Importance of Unbl Kraft indicated by average Fob price of circa USDFob150/t in 2004
- Cf Blchd Chemical only USDFob10/t dearer
- Steeply rising price of latte suggests increasing scarcity in supplier countries



# CONCLUSIONS

- At 34% pa China's wastepaper imports are growing faster than the pulp & paper industry as a whole
- Providing ready means of rapidly expanding output, especially of packaging grades
- The world's three biggest pulp and paper economies (excl China itself) increasingly dominate supply
- After an initial decline in prices (due to oversupply?) signs are of increasing scarcity as prices begin to rise
- China's growth is providing utilization of vast amounts of fibre that would otherwise have been consigned to landfill
- Conserving world & esp. region's forest resources