

Asian Tissue Paper Industry – Past, Present and Future

Some lessons learned in 30 years of Consulting

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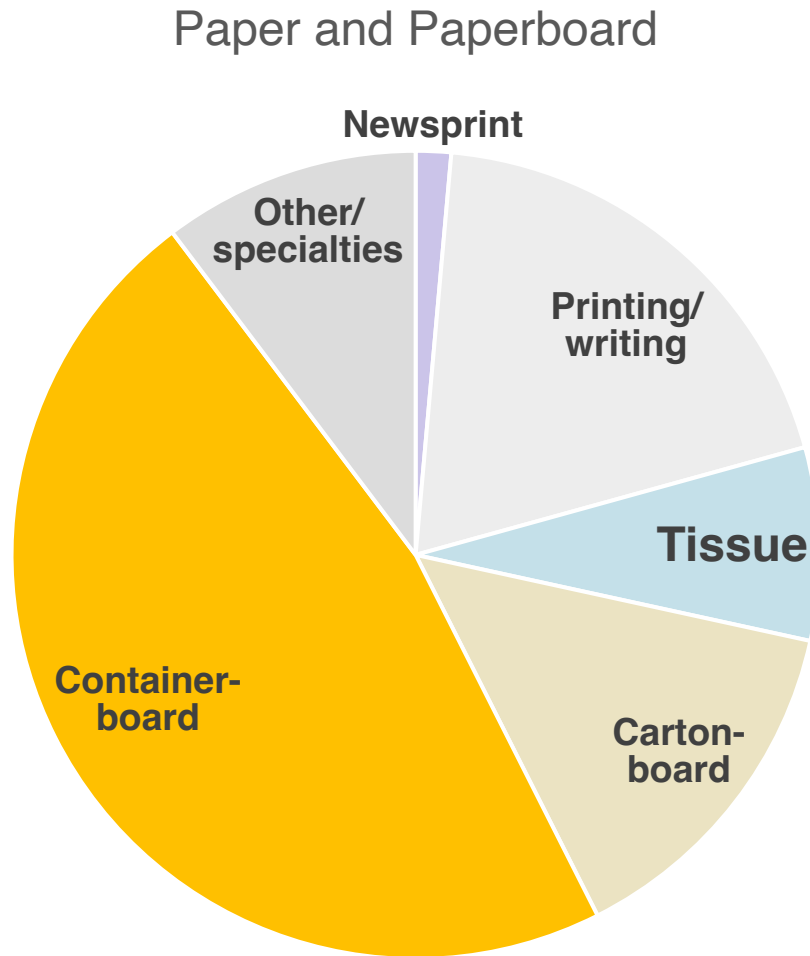
Presentation Outline

Some thoughts on Asian tissue industry and where it may be heading

1. A bit about tissue and it's role in our lives
2. Overview of Asian tissue market
3. Tissue trade
4. Fiber and Recycling
5. Machinery
6. Conclusions

Paper and Paperboard Production in Asia

Tissue makes up only a small part of the total paper and paperboard production.



Total production: 233 million tons

Tissue production: **18 million tons**
(jumbo reel tissue, before converting)
About **8% of total**

Large **variety** of products/grades:
At-home / Away-from-home OR household / commercial
Toilet, facial, napkins, handkerchiefs, towels, wipes, etc.

Tissue machines are **small** (60,000 t/a vs 1,000,000 t/a)

→ ***Very large number of small machines***

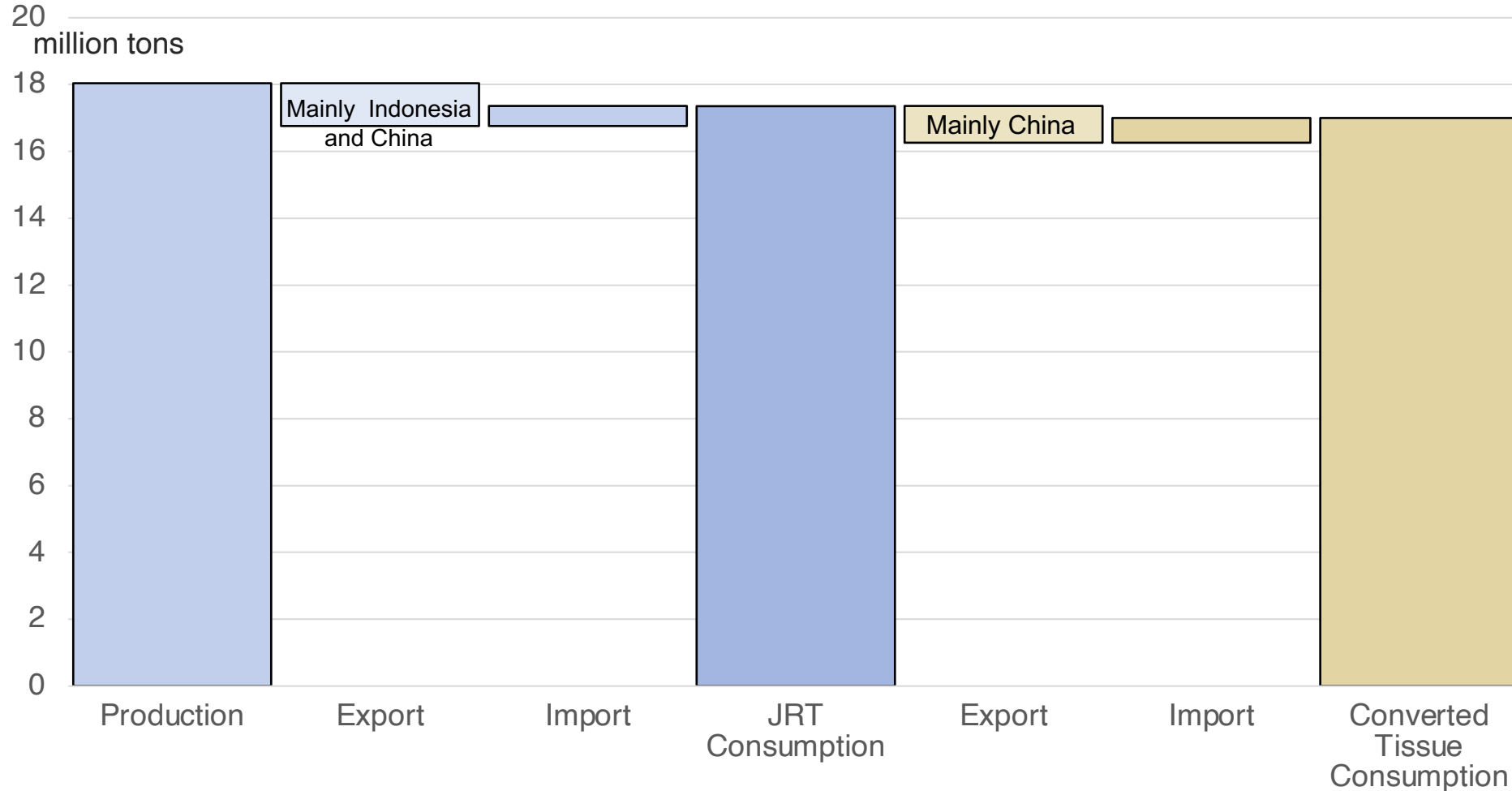
(Asia includes countries from Pakistan to Japan
and Mongolia/North Korea to Sri Lanka/Indonesia;
excluding Australia, New Zealand and PNG)

Some False Impressions About Tissue

- Tissue is not a cheap, low quality product
- Instead, tissue is a very complex product with competing requirements
- Tissue is no longer a local product, it is a globally traded product
- Tissue is a Very Important Product

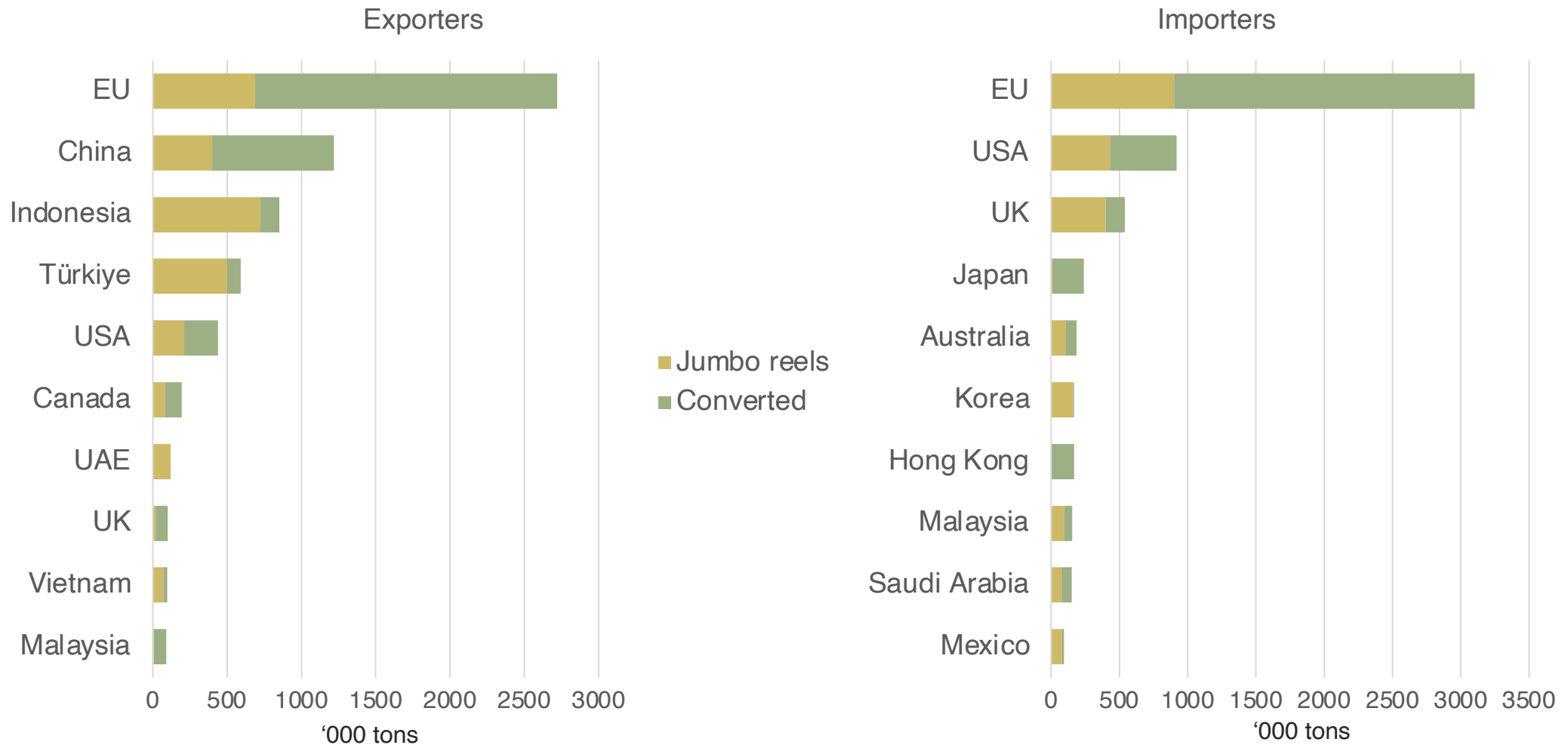
Tissue Paper Production and Trade in Asia

Tissue exports are significant, jumbo reel and converted adding up to about 2.4 million tons, but remain a small part of the total consumption of 17 million tons.



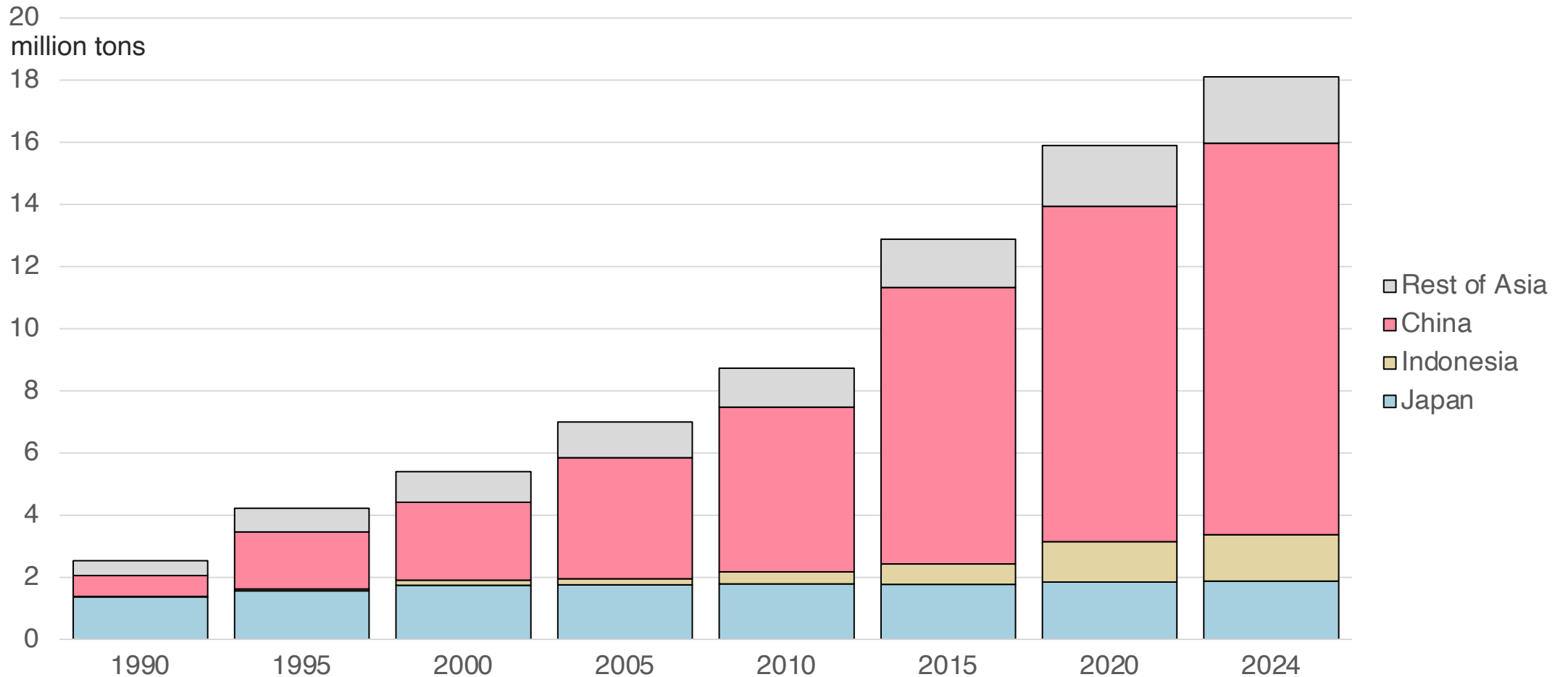
Global Trade in Tissue Paper

Global tissue trade amounts to about 7 million tons a year. Large part is within EU. China and Indonesia are the single biggest exporters while USA is the biggest importer.



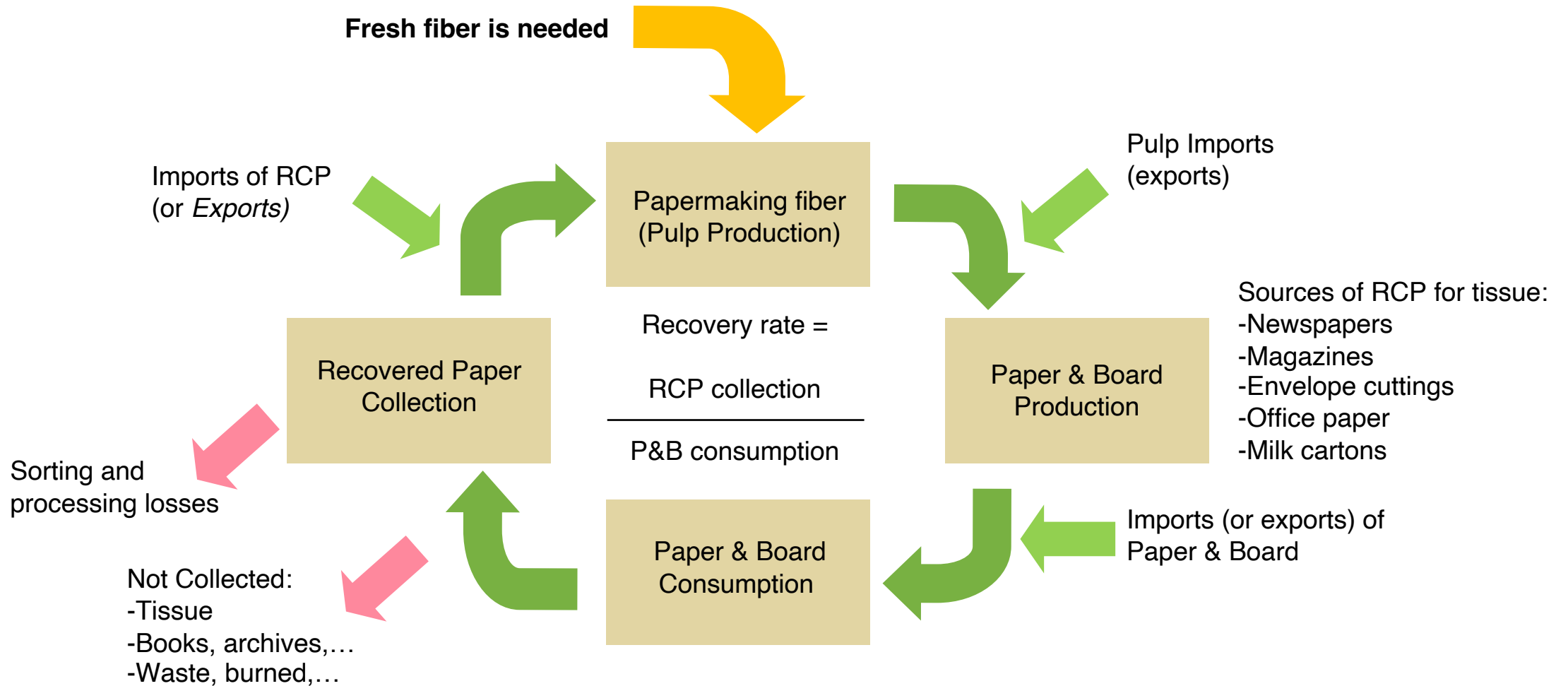
Tissue Paper Production Development in Asia

Japan was the dominant producer 35 years ago, but has remained stagnant. Indonesia rapidly expanded production over the past 15 years. While China has completely taken over.



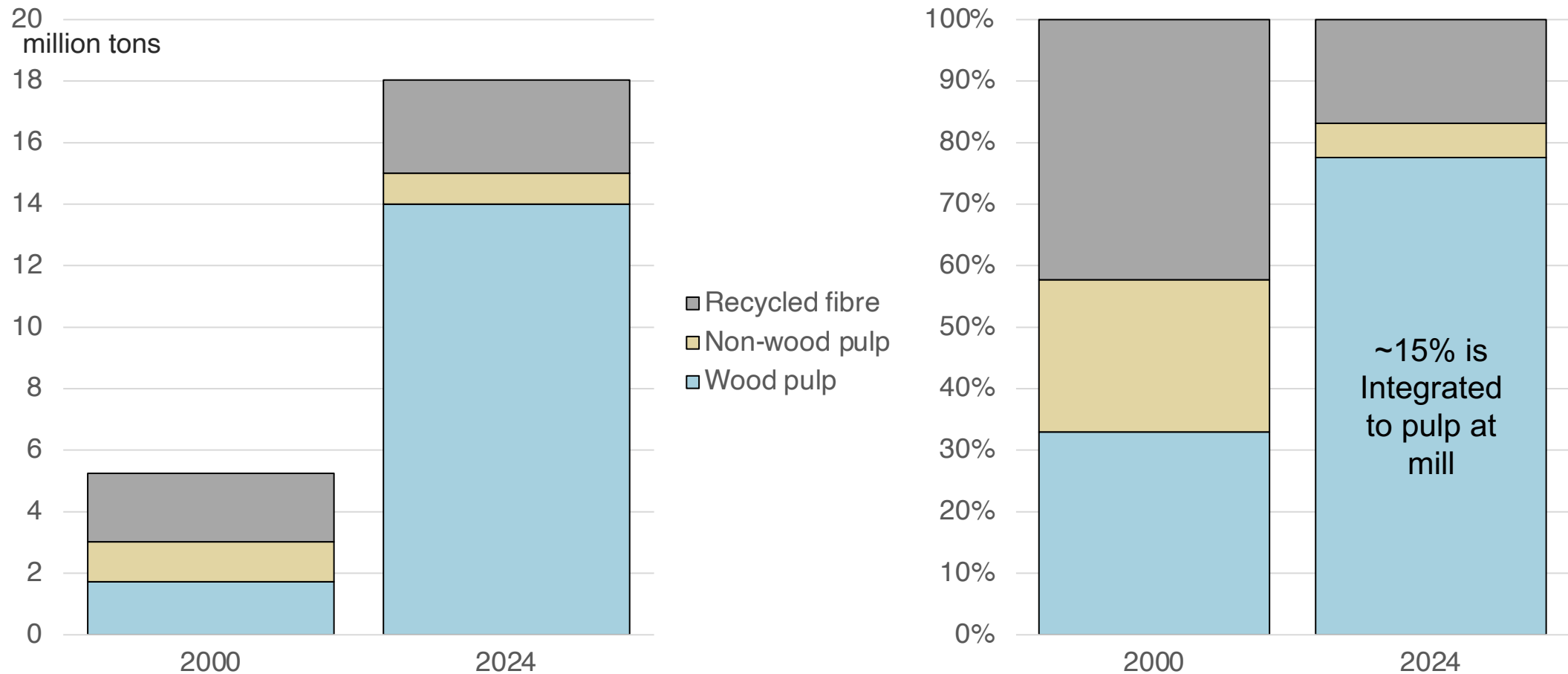
Paper Recycling Circle

*Paper recycling does not fit tissue industry well because most of it cannot be collected.
Tissue can use recycled fiber (ONP, OMG, SOP, SWL, HWS, etc.) but less is available.*



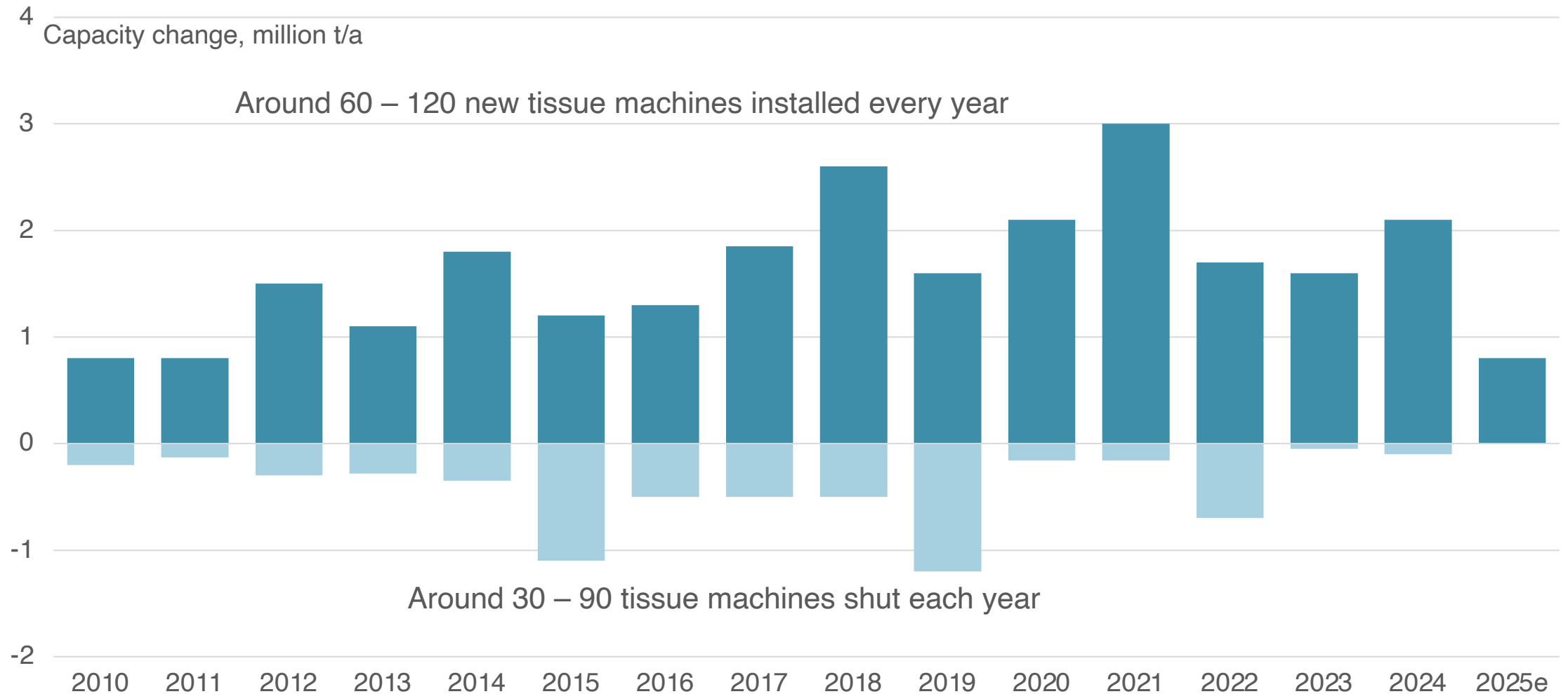
Estimated Tissue Paper Fiber Furnish Development in Asia

Tissue industry has largely turned to virgin wood pulp for fiber furnish. Better quality and better availability of wood pulp has replaced recycled fiber, despite the cost, while non-wood (bamboo) remains a locally available 'environmental' alternative.



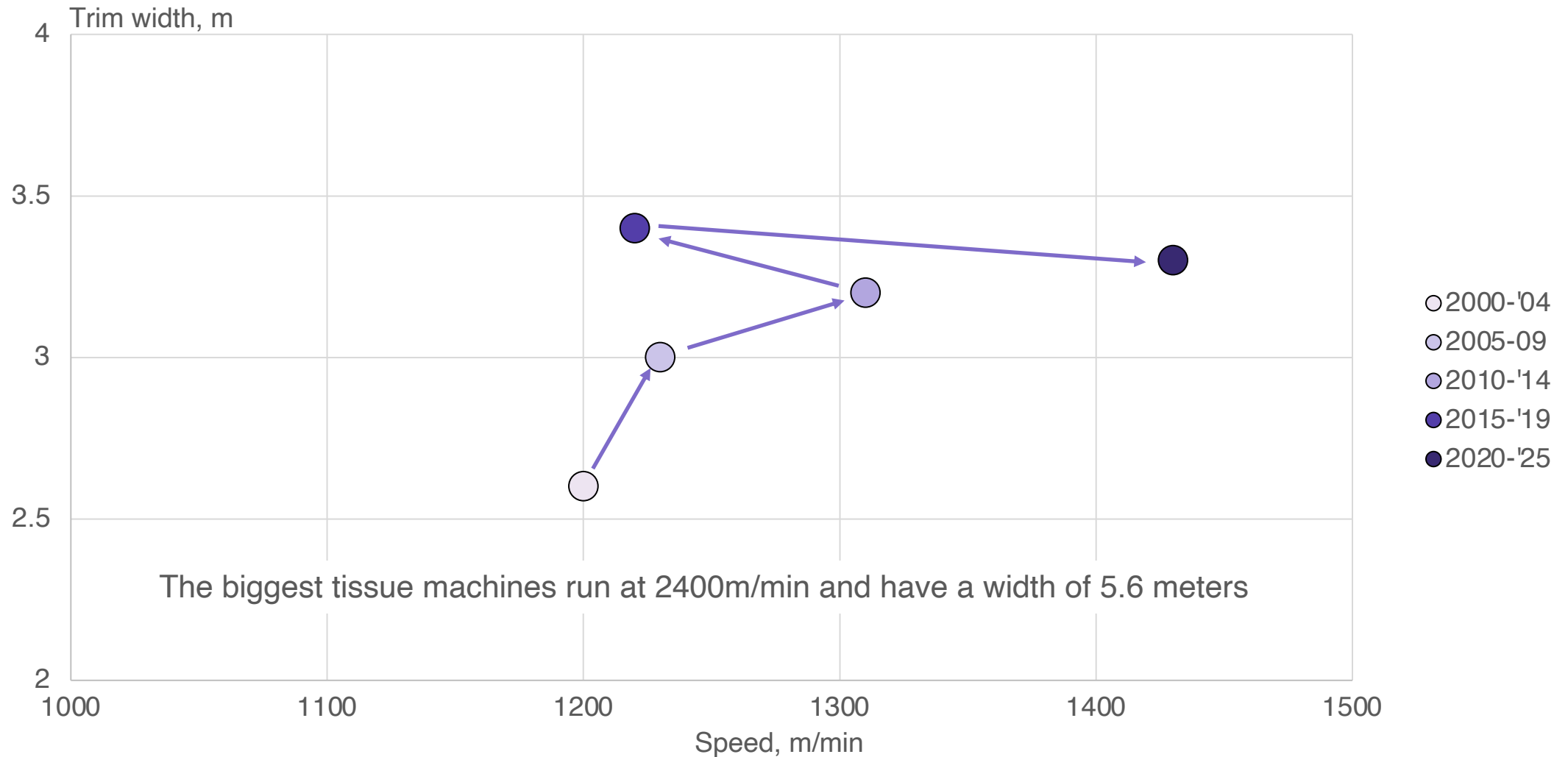
New Tissue Paper Machines and Closures in Asia in Past 15 Years

About 1200 new tissue machines installed in Asia and some 700 closures. Closures have often peaked after larger than usual installations. Net capacity increase is about 20 million t.



Average New Tissue Machine Width and Speed in Asia

Tissue machines are getting faster and wider.



Some Concluding Remarks

- Tissue is a very important 'irreplaceable' product; The market continues to grow
- The market is competitive. Both local and regional (and global)
- Tissue machines are getting bigger and faster, small machines are closing
- There is room for smaller machines, due to the large variety of products
- Fiber furnish has moved to pulp, and integrated pulp, away from recycled fiber
- Integration to pulp is likely to increase, bamboo, and financial integration if not at mill
- You need to keep pace to be competitive, to survive, and hopefully to profit.



Thank You !