

PÖYRY POINT OF VIEW:  
BEING RESOURCE SMART

# Recovered paper: The fibre solution under stress



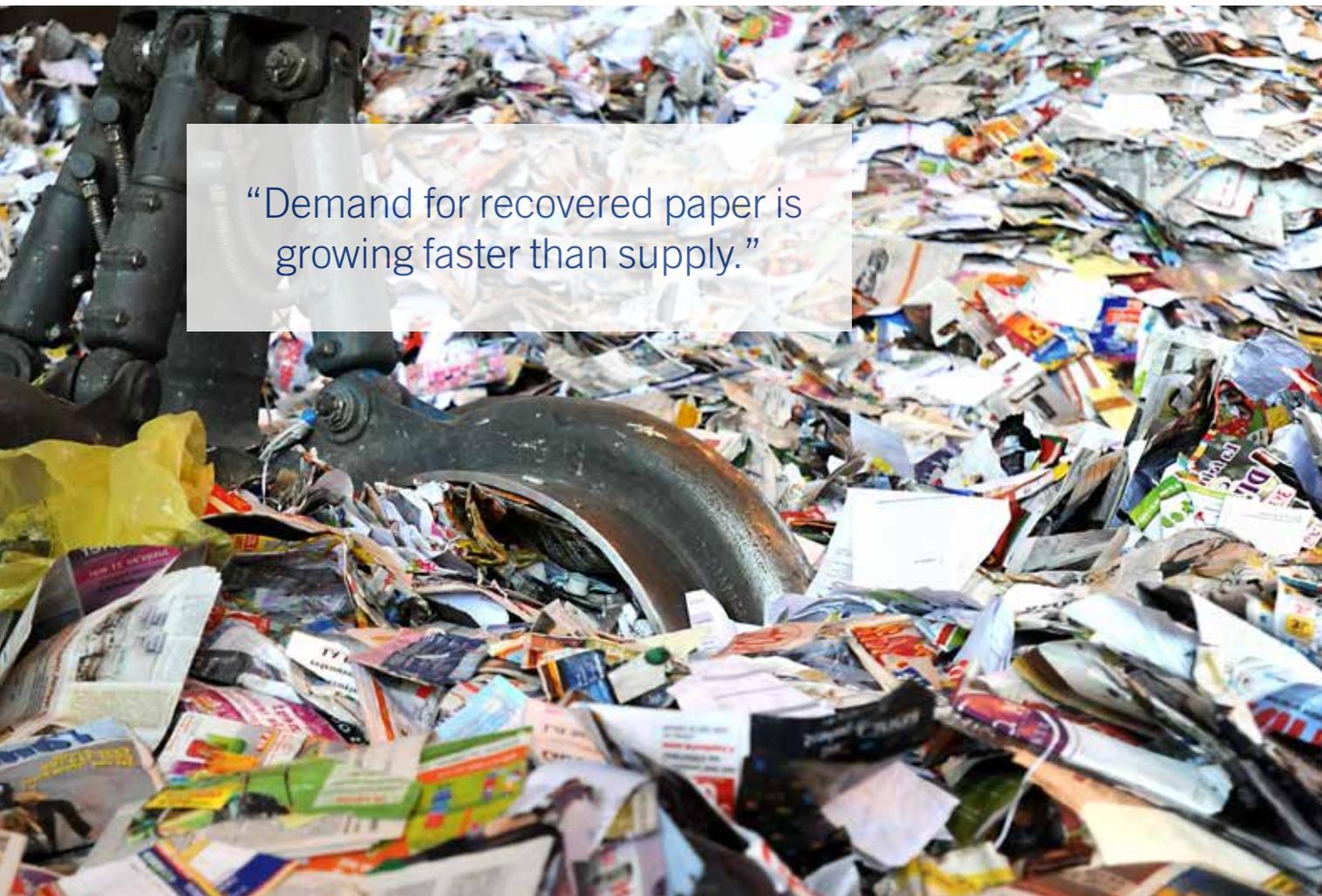
# Recovered paper: The fibre solution under stress

Stress is ever more prevalent in modern society: “The market is stressed”, “he is stressed”, “stress-test”, “stress relief”, “stress fracture”, “stress toys”, “stress and strain”, “stressed out” ... The paper industry is no exception to this. Whilst it faces numerous major issues – increased costs, price volatility, market decline in some grades/regions, and overcapacity to name a few, there is a key stress sitting behind all of this: the availability of its key resource, fibre.



Until recently virgin fibre was the predominant raw material for papermaking. Although its consumption has continued to increase, growth in recycling has been more rapid and has enabled recovered paper to usurp virgin fibre as the main fibre source. Now over 55% of fibre used in the manufacture of paper globally is recovered paper.

Recovered paper is very much a global market, with substantial trade-flows between countries. As such the market is shaped by global dynamics, albeit within this context developments in China regularly have the most pronounced impacts. The key market



“Demand for recovered paper is growing faster than supply.”

drivers in increasing collection and utilisation of recovered paper are numerous, but three stand out:

Firstly the biggest growth area in the paper sector in recent years has been the seemingly **insatiable appetite for containerboard in China** which has led to further capacity expansion. New papermachines have been built across the coastal provinces of China – from the manufacturing heartland of Guangdong in the South to Shandong further North. With China being a resource poor country, the vast majority of new mills are focused on importing recovered paper, helping to pull this material from the market.

Secondly **increased emphasis on diverting waste from landfill** in the public sector has provided investments in recycling, additional spend of public monies on the collection of recovered materials, and increased landfill costs. This has been particularly evident in the Western world. And, whilst less significant than the increase in demand, it has unquestionably helped push more recovered paper onto the market.

Thirdly, **the graphics paper market is facing decline**. This has both direct and indirect consequences on recovered paper availability. This varies across grades – for example graphics paper is the sole fibre source for

recycled tissue manufacture, but is a smaller portion of the feedstock for other recycled paper grades

There are of course other drivers – legislation; cost of collection; pulp prices; paper demand; transport costs; saturating collection rates in many Western countries; environmental perceptions; quality deterioration; and the growing share of tissue in the market; to name a few.

# Market dynamics driven by China



Demand for recovered paper is seen to be growing faster than supply, and as such it is reasonable to assume that recovered paper availability is tightening. However both the magnitude of this and the impact on price can often seem far from clear.

It is evident that the recovered paper market has seen substantial changes, and the story does not stop there. While there are many interesting dynamics that further influence the market, we believe two of the most important:

## 1) RELIANCE ON IMPORTS

The consumption of papermaking fibre in China was close to 104 million tonnes in 2011 and is forecast to grow rapidly, reaching 164 million tonnes by 2025. Of this volume approximately one quarter is imported recovered paper (the rest being domestic recovered paper, wood pulp and non-wood pulp). Imports are heavily focused around three key countries – the US, Japan and the UK. Recovered paper sourcing networks of Chinese traders are wide, spanning countries and regions, thus allowing them to source from the lowest cost countries and shifting supply with price variations. There is sometimes the perception that this is Chinese

“The real collection rate for recovered paper is actually much higher in China than reported rates state.”

businesses working together to control global prices, but in effect it is just the classic market dynamics of a buying on the spot market. It is an interesting question as to how far this buying behaviour will be able to suppress prices as availability of recovered paper tightens.

**2) HOW MUCH MORE CAN CHINA COLLECT FROM DOMESTIC SOURCES?**

It is sometimes quoted that whilst Europe has an apparent recovered paper collection rate of over 70%, it is only just over 40% in China. As such, what if China can increase its domestic collection rates and bring more recovered paper onto the market? However the figures

can be misleading. China is a substantial net exporter of goods – it accounts for 20% of total world manufacturing but only 6% of consumer spending. Put another way, less than a third of the packaging paper apparently consumed in China is actually disposed of in China, and thus can't be collected locally.

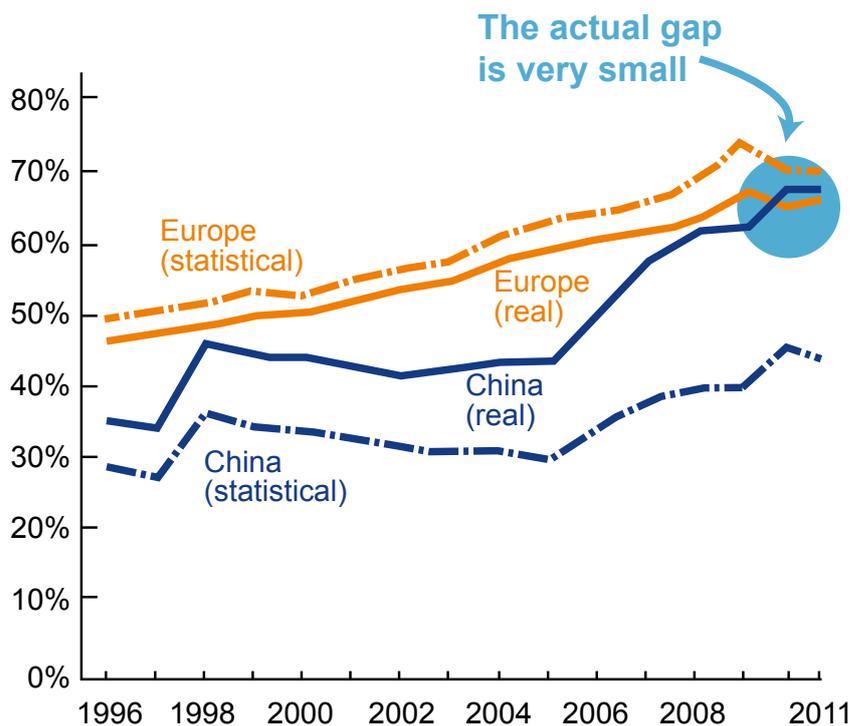
It follows that if we adjust collection rates in Europe and China to take account of these dynamics we find that the real collection rate in Europe is actually lower than stated (around 68%) and much higher in China than stated (64%). Given the dispersed consumption of paper in China it is unlikely that collection rates can be substantially increased further

for packaging and newspaper, albeit collection volumes will increase along with per capita paper consumption. There is though a smaller opportunity for increasing collection rate for “high grades” – currently the manufacture of recycled paper in graphic papers and tissue in China is low and thus there are very limited incentives to increase collection.

The above would suggest an increase in the price of recovered paper, however, the increase will be capped by availability and prices of virgin fibre and more importantly, fibre yield which influences the future fibre mix of the Chinese producers.



COLLECTION RATE DEVELOPMENT  
EUROPE VERSUS CHINA – STATISTICAL AND REALITY...



# Increasing demand, increasing prices

## WHAT IF....?

The Hungarian scientist Hans Selye, famed for his work on (biological) stress is quoted as saying “It’s not stress that kills us, it is our reaction to it.” This theory is fundamental to Pöyry’s approach to modelling and getting the best out of the outputs.

In essence businesses across the paper supply chain pose two key questions regarding recovered paper: What is the outlook for price? and, what is the outlook for availability? By understanding the answers to these questions it becomes possible for a company to react to the stressed recovered paper market in the right way and develop competitive advantages.

To model and stress test recovered paper availability numerous factors need to be considered - such as supply, demand, cost competitiveness, transport costs, grade splits, and quality. Then, future prices for recovered paper can be determined where the output of this modeling is considered alongside the other two key influencers - pulp price and collection cost.

To provide a true depth to such analysis and understanding of the potential implications of a variety of changes to the market, the results and outputs should be re-tested under alternative “what if” scenarios. Examples of appropriate scenarios would include:

- What if we make alternative assumptions around Chinese paying capability?
- What if landfill taxes increase in a given country?
- What if the Indian paper industry grows more rapidly than expected?
- What if graphic paper production hits the floor?
- What if China’s economic growth slows down?
- What if the bioenergy sector booms?
- What if tissue and/or packaging paper demand increases more rapidly than expected?



“The ready availability of recovered paper to sustain the levels of growth seen in recent years is under threat.”

- What if use of recovered paper in printing and writing grades increases in China?
- What if we make alternative assumptions on future quality requirements in China and implications on fibre yield and mix?
- What if a viable alternative to virgin wood fibre becomes economically available?
- What if an external factor enables recovery rates to increase to unforeseen levels such as 80% (e.g. as a step change improvement in public sector financing)

## FROM STRESS TO COMPETITIVE ADVANTAGE

Growth in recovered paper has been the key enabler behind the growth of the global paper sector over the last decade, shaped particularly by developments in China. Global consumption of recovered paper will continue to grow, but at a slower rate – from the current 223 million tonnes to 308 million tonnes by 2025. In volume terms, the growth will continue to be fastest in China and the rest of Asia due to increased paper production coupled with a shortage of domestic fibre – both virgin pulp and recovered paper. However, the drivers for increasing demand

are much stronger than those driving supply, leading to a global tightening supply-demand balance for recovered paper. Long term increases in price are inevitable, as is pressure on volume, where being able to guarantee supply security will become an increasing focus. The ready availability of recovered paper to sustain the levels of growth seen in recent years is under threat.

Of course the future of recovered paper is also intrinsically linked to virgin fibre. There are implications for pulp manufacturers, paper producers and waste collectors alike. Companies must understand the consequences and implications of this outlook for their business. Pöyry’s modeling capabilities can be used to develop scenario studies to support optimum fibre strategies –for the short term, medium term or longer. This type of analysis provides insight into market dynamics that improves decision making and builds competitive advantage, in this increasingly stressed market.

# About the Pöyry Point of View

Staying on top of your game means keeping up with the latest thinking, trends and developments. We know that this can sometimes be tough as the pace of change continues to accelerate.

At Pöyry, we encourage our global network of experts to actively contribute to the debate - generating fresh insight and challenging the status quo. The Pöyry Point of View is our practical, accessible and issues-based approach to sharing our latest thinking.

We invite you to take a look – please let us know your thoughts.



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