



HAWKINS WRIGHT

The Outlook for Unbleached Fibre Demand, Supply, Costs & Prices, 2021-2026

A multi-client report available from June 2022

Report prospectus



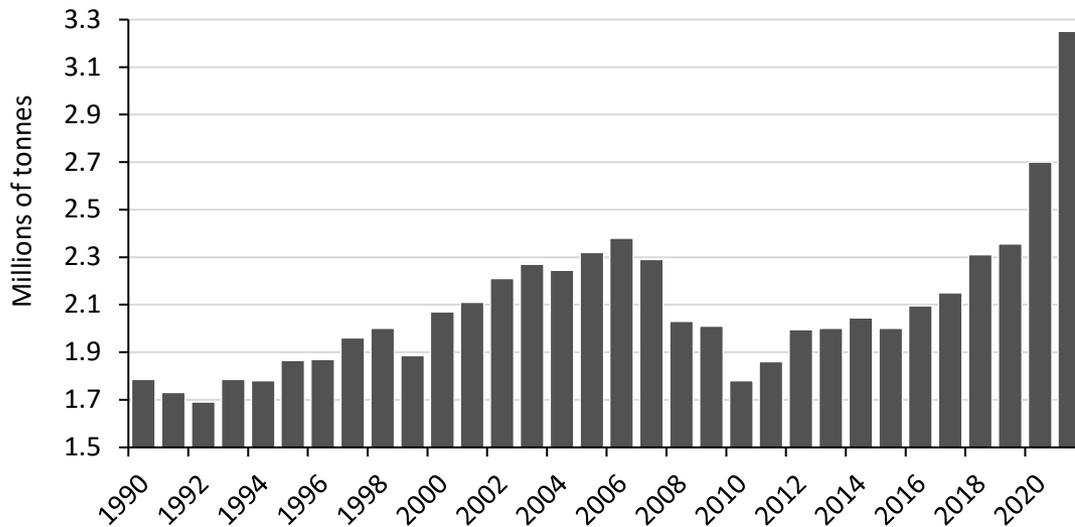
Background

Global UKP production has fluctuated within a range of 33Mt-35Mt over the past thirty years. However, last year output surged by an estimated 1.7Mt, taking global production to 36.9Mt, a record high. The surge in output was attributable to strong growth in global integrated kraft paper and board production, and a surge in UKP sales which reached a high of 3.25Mt, +20% over 2020 (+550Kt). Of the 3.25Mt of sales last year, around 18% was used to manufacture fibre cement, 10% for electrical/filtration paper and 72% for paper and board.

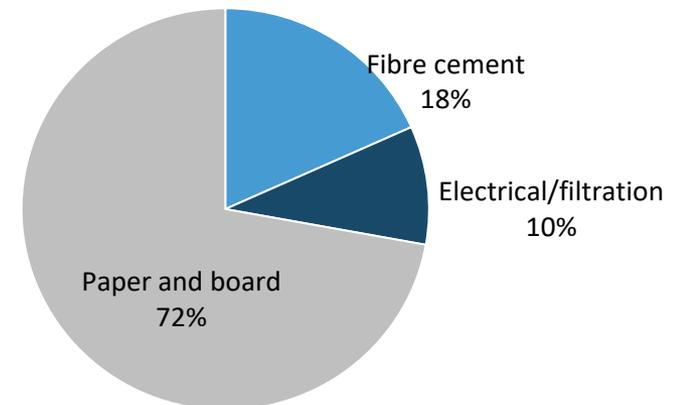
The growth in global sales last year was underpinned by China, where the market expanded by 24%, equal to +280Kt. And within China, the growth was supported by demand from the containerboard sector which continues to suffer from a fibre deficit since the implementation of Operation National Sword in 2017. This policy directive gradually phased out China's imports of waste paper, removing around 28Mt of feedstock over the period 2017-2020.

This fibre deficit has obliged the Chinese to use more domestically sourced waste paper, but collection rates are already relatively high and the quality of local waste is inferior to most imported grades. As a result board manufacturers have increased purchases of UKP which they blend with local waste paper to improve strength.

World UKP sales, 1990-2021, Millions of tonnes



World UKP sales by end-use market, 2021





Background

The fibre deficit in China is also supporting surging import demand for URP (unbleached recycled pulp); imports rose to 2.4Mt last year, from just 300Kt in 2018. All of the growth in demand during this period is attributable to recycled content board manufacturers and more than three quarters of the imported volume is sourced from affiliate recycled pulp lines in Southeast Asia and the US. Most of these lines are furnished with waste paper that was previously destined for the China market.

Ongoing investment in Chinese containerboard capacity should ensure that import demand for UKP and URP remains strong during future years, whilst outside of China, UKP demand should also be supported by growing demand for fibre cement and electrical and filtration papers.

We believe this demand growth will be satisfied by several mills switching from bleached to unbleached production. Some conversions projects are already underway and we expect others to be announced, encouraged by the more favourable economics of UKP production.

If market UKP supply is unable to match demand, we believe this will incentivise product innovation that will ultimately allow for the large scale deployment of hardwood UKP - which for the time being remains in its infancy with the global market size estimated at just 0.2Mt this year.

URP capacity is also expected to expand but some projects seem to have stalled over the past 12 months. We attribute this to waste paper markets being tighter than anticipated, especially in the US where growing domestic production of containerboard has absorbed much of the RCF volumes that were previously destined for China; other volumes have been reallocated to export markets, most notably in SE Asia. Since North American RCF supply has fallen on the back of significantly weaker graphic paper consumption and Covid-induced logistical bottlenecks, RCF prices have fluctuated at relatively high levels which may act as a deterrent to any significant further investment in new URP supply.

Chinese imports of unbleached recycled pulp (URP), 2010-2021

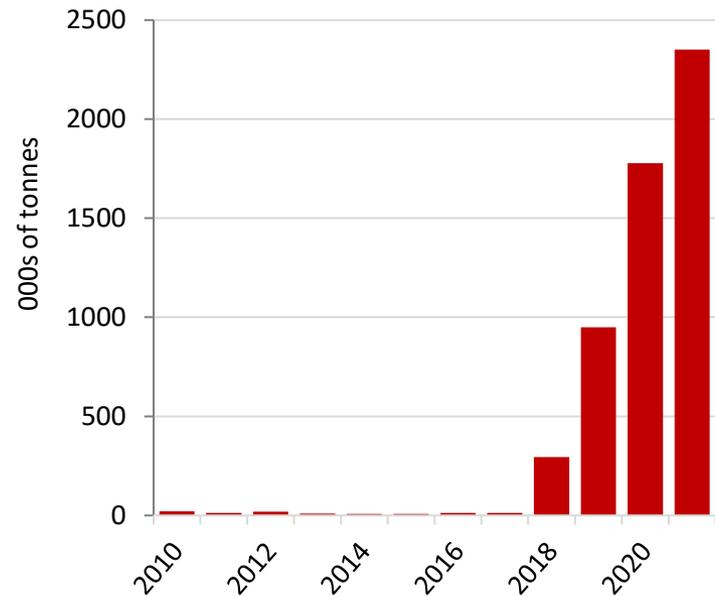




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This report provides context to the different end use markets for UKP and URP, providing estimates for demand by region and subgrade, with forecasts to 2026. A comprehensive appraisal of current and future global supply by mill and grade is also included, with an analysis of production costs by region. The report concludes with a price forecast for UKP and URP, CIF China.

Chapter 1. Global P&B production and furnish.

- An overview of global paper and board production by grade and furnish type, 2021.
- World fibre consumption by grade

Chapter 2. UKP & URP production and sales

- Global UKP production by region, 1990-2021.
 - Integrated vs. market UKP.
- World containerboard production by region and by grade: recycled content vs. virgin content.
- World UKP sales by region and end-use market: board & sack, fibre cement, electrical & filter.
 - World UKP trade matrix.
- China focus
 - Operation National Sword and the impact on containerboard production.
 - The emergence of URP.
 - Chinese URP demand by country of origin. Tied/affiliated supply vs. 'free' market URP.
- Other Asia focus
- Europe focus
- North America focus
- Latin America focus



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Chapter 3. Unbleached fibre shipments forecast

- World packaging paper and board production forecast, by region and grade, 2021-2026.
- Containerboard investment capacity listing by region with a specific focus on China.
- UKP demand trends by end-use market, 2021-2026.
- UKP and URP shipment forecast by grade and by region, 2021-2026.

Chapter 4. Unbleached fibre supply

- Global UKP capacity by mill and by grade, 2021.
- UKP capacity outlook, 2021-2026.
- UKP and BSKP shipment-to-capacity ratio, 2015-2026.
- Global URP capacity by mill, 2021.
- URP capacity outlook, 2021-2026

Chapter 5. Production costs

- UKP cash costs of production by region, CIF China.

Chapter 6. Prices

- UKP prices vs. OCC and other commodities.
- A discussion of the price drivers for URP and UKP.
- Theoretical cash cost of production for a Chinese URP producer.
- Chinese OCC trend price forecast, 2021-2026 (in real and nominal terms).
- URP and UKP Price forecast to 2026.

Appendix

- UKP and URP capacity by mill
- UKP technical characteristics

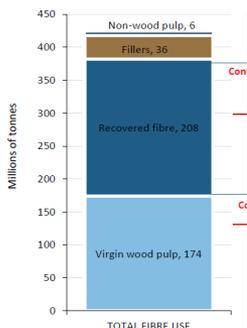
METHODOLOGY

This report has been prepared using desk research which has been supplemented by interviews with existing UKP and URP suppliers, buyers, traders and other industry participants. We have also made full use of Hawkins Wrights existing information resources, contacts and relevant research material.

Although it varies by region and grade, our model assumes that the average yield from recovered fibre was around 74%. The 208Mt of RCF thus yielded around 154Mt of deinked pulp. An estimated 151Mt of this was integrated with paper and board production, and 2.9Mt sold to the market either as unbleached recycled pulp (URP) or bleached market deinked pulp (MDIP).

Of the wood pulp consumed, approximately 144Mt was chemical (mostly kraft), and 36.5Mt was unbleached kraft pulp (UKP).

The focus of this report is the market for UKP and UBP.



Section 1: Defining the unbleached fibre market

World containerboard production by grade, 2021e



North America – which is the largest UKP producing region in the world, with output estimated at 20Mt shipped as market UKP, mostly to Asia.

Much of the growth in global UKP production last year where linerboard production accelerated by 5% over increased sales of UKP, which we explore in more detail.

Section 2: The market for unbleached fibre

China focus: planned pulp capacity

The table opposite is far from exhaustive, but summarises the announced pulp projects which are financed and under construction, or have received environmental approvals.

If we included all of the more speculative announcements or private ambitions of every Chinese company, the total would be more than double the 12Mt/y we have identified.

Nine Dragons, Lee & Man, Huatai, and Liansheng have all placed orders with Andritz and/or Valmet for the main equipment, and Nine Dragons disclose progress and updated target dates every six months in its financial reports.

Nevertheless, it is quite possible that projects are delayed due to the current inflation in raw materials and equipment costs, and also the covid-19 lockdowns which could persist for months, if not years.

In addition, we believe that fibre constraints will become more evident as new capacity starts operating, and this may also lead to project delay and cancellations.

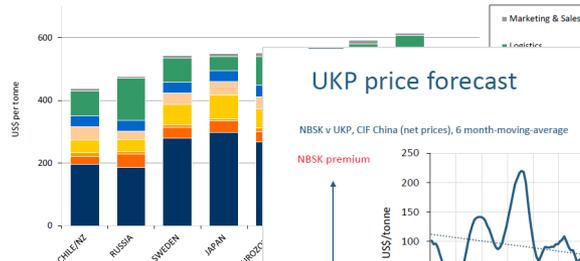
Total planned UKP/Semi-chem investment is quantified at 2.7Mt, all of which will be integrated with linerboard capacity.

Section 3: Unbleached fibre demand forecast

Company/mill	Pulp grade	Capacity	End use	Target Start
Nine Dragons		4,220		
Wuhan, Hubei	UKP	600	Liner	Q3 2022
Dongguan, Guangdong	UKP/Semi	600	Liner	Q2 2022
Chongqing	UKP/Semi	500	Liner	Q3 2022
Shenyang, Liaoning	UKP/Semi	620	Liner	Q4 2022
Beihai, Guangxi	HYP	1,400	Liner, Ivory, P&W	Q4 2023

UKP weighted average production costs, CIF China

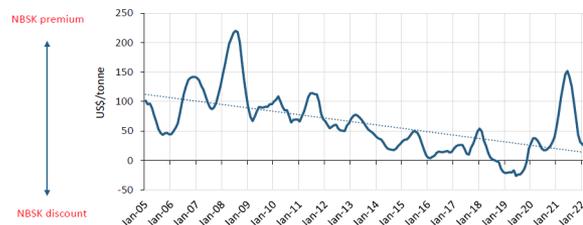
The table below illustrates the weighted average production costs, CIF China, for commodity grade UKP.



Section 5: Costs & Prices

UKP price forecast

NBSK v UKP, CIF China (net prices), 6 month-moving-average



The price premium of NBSK over UKP has narrowed over the past fifteen years. Over the period 2010-2017, UKP demand growth was largely supported by higher priced niche grades, whilst demand for commodity grade UKP stagnated. Furthermore, a number of UKP mill closures took place (e.g. Samoa, Usutu, Solombalsky) without any investment in dedicated UKP capacity, meaning any demand growth has been satisfied by swing production from bleached mills or roll pulp supply from US kraftliner mills.

Bleaching costs are estimated at \$30-70/t depending on chemical market conditions (see page 69), mill location, type of feedstock, bleaching process etc. However, not all BSKP mills are easily able to produce UKP and efficiency losses can offset some of the cost savings derived by not bleaching. Nevertheless, as the price gap between commodity grades narrows an increasing volume of swing production may be incentivised.

Section 5: Prices



Availability and cost

Available from June 2022, a subscription to the Outlook for unbleached fibre supply, demand, costs and prices is priced at £3,450.

Existing subscribers to Hawkins Wright's Outlook for market pulp service qualify for a discounted price of £2,750.

The price includes an electronic copy of the main report; Hawkins Wrights responses to any (within reason) questions on global UKP and URP markets that may arise during the year; and a presentation meetings with one of our consultants. (Such meetings are normally arranged to coincide with major industry events – for example London Pulp Week or MPA – or when a consultant is travelling in the region. However, for specially arranged meetings we reserve the right to charge travel and subsistence costs. Such costs will always be agreed in advance.)

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