



HAWKINS WRIGHT

The Outlook for Fluff Pulp demand, supply and prices

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What our Outlook for Fluff Pulp service offers...

The fluff pulp market has been the subject of much interest lately, attracting significant investment in mill conversions, acquisitions and new capacity. Despite representing only 10% of the global bleached chemical pulp market, the sector has attracted investment because of its remarkably consistent growth rate, underpinned by improving living standards, demographic trends and low penetration rates in developing countries. However, while the prospects for demand remain stellar, a surge in new supply promises a period of market volatility.



Against this backdrop of growing uncertainty, we have decided to launch a fluff pulp service to provide subscribers with Hawkins Wright's observations on the sector. These observations will be drawn from discussions with industry contacts, coupled with a close examination of historical demand, supply and pricing data. Forecasts for these three variables will also be presented, allowing subscribers to plan effectively and successfully: to identify and seize opportunities and strategize for any threats. The analysis will also include an overview of the dissolving pulp market, which is having an increasingly important influence on capacity developments within the fluff pulp market.

Our Outlook for Fluff Pulp service is articulated around the following chapters:

- **Fluff pulp demand** – Previous- and current- year review, 10-year historical analysis by region. 5-year demand forecast by region. A review of the end-use markets, and a summary of future trends.
- **Fluff pulp supply** – Capacity by mill, quantifying the theoretical maximum capacity and with estimates for the capacity split at swing mills (paper grade pulp/fluff pulp/dissolving pulp). 5-year capacity forecast summary, by grade and by mill.
- **Supply/demand balance** – Long term annual projections and a discussion about short term fundamentals. Projections will include two scenarios: one looking at the theoretical maximum supply vs. demand. A second scenario will be presented making allowances for fluff pulp supply which may be producing others grades of pulp.
- **Prices** – Macro-economic review. Impact on cost competitiveness of exchange rate fluctuations. Fluff pulp in the context of other global commodities, including paper grade and dissolving pulp. Five year price forecast for fluff pulp Del. North America.

About Hawkins Wright

Hawkins Wright is an independent consultancy providing a range of strategic, forecasting, market intelligence and business information services to the international forest products and bioenergy industries.

Since 1982 Hawkins Wright has provided authoritative and cost-effective services based on in-depth research of the global forest, pulp & paper and bioenergy industries. These services include private consultancy assignments covering a full range of marketing and strategic subjects as well as regular multi-client reports and newsletters.

Our consultancy services build on our global perspective of the macro- and micro-economic trends driving the international forest industry and downstream product markets. Assignments can range from advice on a client's business development or feedstock sourcing strategies to highly detailed market feasibility assessments of prospective projects.



Sample pages

Fluff pulp demand forecast by end use product, 2012-2022

	(000s tonnes)	DEMAND FORECAST							% p.a.	% p.a.	000s t	000s t
		2012	2017	2018	2019	2020	2021	2022	2012-17	2017-22	2012-17	2017-22
Total world demand		4,800	5,670	5,875	6,070	6,280	6,495	6,725	+3.4%	+3.5%	+870	+1,055
By end use												
Baby Diapers		2,065	2,410	2,485	2,540	2,590	2,635	2,680	+3.1%	+2.1%	+345	+270
Adult Incontinence		1,270	1,525	1,590	1,670	1,760	1,860	1,965	+3.7%	+5.2%	+255	+440
Feminine Hygiene		1,090	1,265	1,305	1,345	1,390	1,435	1,490	+3.0%	+3.3%	+175	+225
Airlaid/Other		375	470	495	515	540	565	590	+4.6%	+4.7%	+95	+120
Market share												
Baby Diapers		43.0%	42.5%	42.3%	41.8%	41.2%	40.6%	39.9%				
Adult Incontinence		26.5%	26.9%	27.1%	27.5%	28.0%	28.6%	29.2%				
Feminine Hygiene		22.7%	22.3%	22.2%	22.2%	22.1%	22.1%	22.2%				
Airlaid/Other		7.8%	8.3%	8.4%	8.5%	8.6%	8.7%	8.8%				

Source: Hawkins Wright, Company reports

Key trends in end-use markets

Demand for fluff pulp is being propelled by population growth coupled with improved market penetration of absorbent products. However, there are notable regional differences by product group, as discussed below.

Adult Incontinence

In percentage terms, fluff pulp demand from the adult incontinence sector is forecast to exhibit the strongest growth through 2022, expanding at an average annual rate of 5.2%. In absolute volumes, the market is expected to grow by 0.44Mt compared with growth of 0.26Mt during the previous five year period. Growth for adult incontinence products is being driven by the ageing populations of North America, Europe and Japan and the fact that the elderly are seeking to maintain their lifestyles and personal well-being regardless of any incontinence problems. However, as much as consumer trends are supporting demand growth, the sector is experiencing minor headwinds from the ongoing austerity measures being taken by some European governments; adult incontinence products in Europe are frequently distributed through prescriptions which national health services are issuing less as a result of ongoing budget cuts.

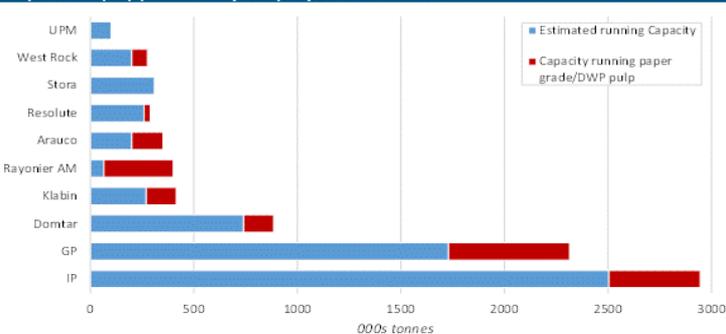
As with diaper products, a desire to have thinner and more flexible products is also encouraging the increased use of superabsorbent polymers, which reduces the fluff pulp requirement per unit. Our forecast assumes that the demand erosion resulting from this substitution is more than offset by increased unit sales.

Airlaid/other

Fluff pulp demand derived from the airlaid/other category is forecast to expand by an average of 4.7% through 2022, boosting the total market by 0.12Mt. The largest growth segment is superabsorbent food pads which are used to help package poultry, meat, fish, fruits and vegetables. A growing consumer appetite for flushable, sustainable wipes, is also supporting demand growth, especially in North America. Demand for pet pads is also growing well, especially in Japan.



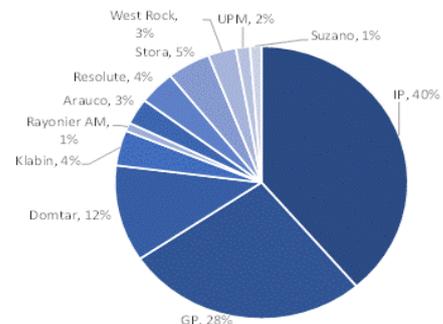
Top 10 fluff pulp producers by company, 2018



Source: Hawkins Wright estimates

The graph opposite shows fluff pulp capacity by company. The blue bar denotes the estimated running volume of fluff pulp capacity whilst the red bar shows our estimates for the volume of supply currently producing other grades.

Market share based upon estimated running capacity, 2018



Source: Hawkins Wright estimates





Sample pages

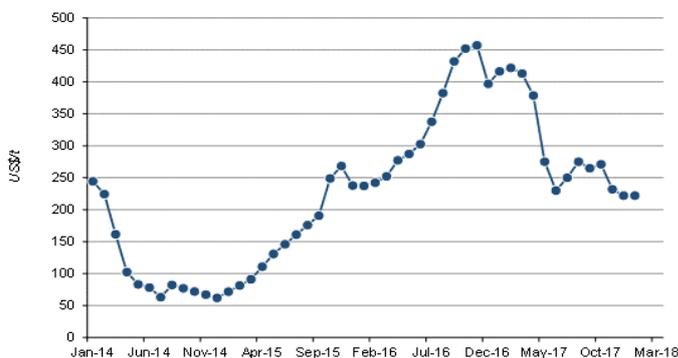
Fluff pulp swing capacity with dissolving pulp

The recent conversion of the fluff pulp line at Foley to enable dissolving pulp production means that there is now more than 0.6Mt of swing capacity that can produce both fluff and dissolving/specialty grades of pulp. The mills which we consider to have swing capability include Rayonier Advanced Materials mills in Tartas and Jesup, IP's Port Wentworth mill and GP's mill at Foley.

We note the following:

- Although the Tartas mill briefly produced limited volumes of fluff pulp in 2015 owing to oversupply in the dissolving pulp market, the mill is once again fully dedicated to dissolving pulp production. We assume the mill remains fully dedicated to dissolving pulp through the forecast.
- The Port Wentworth mill produces a specialty grade of pulp which is marketed as 'pearl pulp'. Although this hybrid grade is not officially a dissolving pulp, it is frequently blended with other higher purity grades.
- We note that the softwood dissolving pulp price CIF China averaged \$995/t net last year, compared with an average net price of \$700/t for fluff pulp. The dissolving pulp pricing premium peaked in Q1 at \$420/t, at which stage swing capacity was economically incentivised to maximise dissolving pulp production. Since then, the pricing premium has narrowed to just \$220/t in January 2018, reducing the incentive to transition to DWP. We estimate that the long term DWP pricing premium will average more than \$300/t; based upon this assumption, we assume the aforementioned swing capacity will slowly transition to DWP during the years ahead. However, the speed of such a transition may be dictated by existing contractual obligations to fluff customers.

Net pricing differential between softwood dissolving pulp (commodity grade) and fluff pulp, CIF China



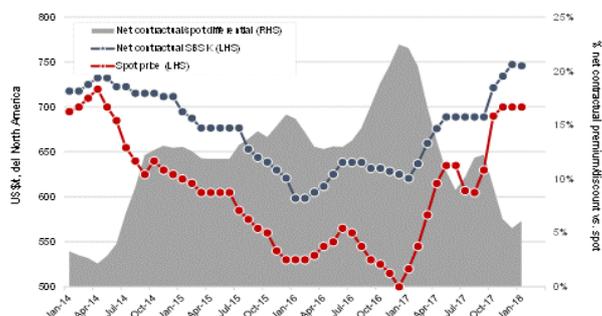
Source: Hawkins Wright estimates

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Differentials

Net vs spot price, SBSK DEL North America



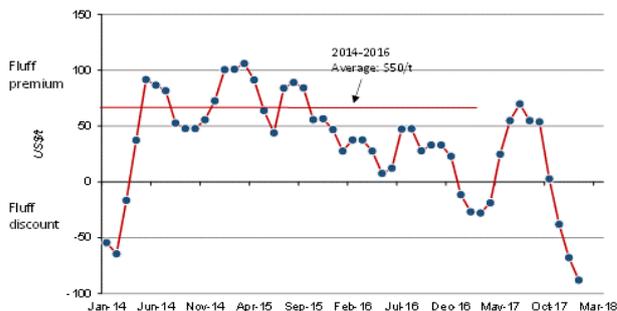
Source: Hawkins Wright

The chart opposite shows the spot price of SBSK del. NA against the net contractual price of SBSK (note that our model assumes the discount rate of the largest volume buyers).

During 2014-2016, the spot price was at a consistently large discount to the net contractual price, highlighting increased activity in the spot market, and by implication, growing over-supply of fluff pulp. This disparity accelerated during 2016 as new fluff pulp capacity came to market; initially most of the new supply was geared towards SBSK production which created periods of significant oversupply.

Against expectations, much of this surplus supply was absorbed during 2017 by strength in demand in China coupled with various softwood market pulp supply outages. Unusually, these developments ensured that the net price of SBSK in China established a significant premium over the net price of fluff pulp; as of January 2018, the net price of fluff pulp was almost \$90/t lower than SBSK, CIF China. For comparison, fluff pulp traded at an average premium of almost \$50/t during the period 2014-2016.

Fluff pulp vs. SBSK net price differential, CIF China, 2014-2018



Source: Hawkins Wright

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Subscription scope and order form

The cost of a **12 month subscription** to the Fluff Outlook service is **£2,150** (or the equivalent in US dollars or euros). Existing subscribers qualify for a discounted price of **£1,380**. An annual subscription includes:

- One main report published in February, containing detailed supply, demand and price analyses and five-year forecasts. Distributed electronically.
- One interim price forecast update, published in August. Taken together with the main report, this short update report allows the key forecast data and assumptions – in particular the price forecast – to be updated. Distributed electronically.
- Hawkins Wright’s response to any questions that the subscriber may have on matters relating to the international fluff pulp market throughout the year. In this way Hawkins Wright can be used as a virtual extension of the subscriber’s own marketing or market research department.
- A personal presentation: it will usually be possible for a Hawkins Wright consultant to meet with each client at least once a year to make a presentation on market developments.

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