

Chile Pulp Supply Disruption and Potential Market Impact

Monthly Focus Topic

Supply situation prior to the Chilean earthquake on February 27th



Northern Bleached Softwood Kraft (NBSK) and Northern Bleached Hardwood Kraft (NBHK) supply tight due to:

- Increased demand due to inclement weather in US South and annual outages at integrated mills
- Restricted supply due to annual outages at market pulp mills
- Year over Year growth in pulp demand, all grades
- Continued robust demand from China

Impact of the February 27th earthquake on Chilean pulp production



All Chilean pulp capacity is idled:

- Arauco – five mills
- CMPC – three mills
- Mills have varying degrees of damage

Significant damage to infrastructure:

- Port facilities (the major port, Lirquen, handles 55% of pulp exports and is operational)
- Rail / road / bridge
- Power / water

Full extent of damage is still unknown:

- Limited access to mills due to aftershocks
- Conflicting / limited data coming from the region
- New information on a daily basis



Port of Talcahuano hit by Tsunami



Chilean earthquake impacted 8% of Global capacity



(000) tonnes	World capacity (2009)	Idled due to earthquake	% Impact
Bleached Softwood Kraft	23,600	2,210	9%
Bleached Hardwood Kraft (incl Eucalyptus)	28,265	1,975	7%
Unbleached Kraft	2,305	360	16%
TOTAL	54,170	4,545	8%

Most notably

- CMPC declared “force majeure” for an initial period of 30 days
- Arauco declared “force majeure” with no specified timeframe
- Downtime forecast – 30 to 60 days depending on mill location (RISI)

The Asian market will likely suffer the largest impact from this downtime



Chilean Bleached Pulp shipments by destination in 2009, (000) tonnes

Softwood			Hardwood		
China	1,060	50%	China	585	30%
W. Europe	390	19%	W. Europe	510	26%
Indonesia	180	9%	Korea	275	14%
L. America	170	8%	L. America	170	9%
Korea	155	7%	Taiwan	100	5%
Taiwan	55	3%	E. Europe	25	1%
Other	50	2%	Other	270	14%
Japan	45	2%			
Total	2,105		Total	1,935	

The "Other" category for both Softwood and Hardwood is primarily other Asian countries and the Middle East, with very little volume into North America

Implications of Chilean Supply Disruption on pulp markets



4MM tonnes per year bleached pulp capacity out for 30-60+ days.

- ie. 333K – 667K+ tonnes pulled out of the market for the period of disaster to full recovery

Asia will feel the first impact, and will have to go to other regions to source replacement fiber, both SWD and HWD

This will tighten supply and reduce inventories worldwide

There are still unknowns:

- Extent of damage to mills, infrastructure
- Pipeline inventories

Effect on price will likely be on the order of \$100 per tonne additional increase for April/May/June.

- RISI is predicting \$135, others lower
- RISI is still expecting pricing pressure to abate in Q3 and beyond as worldwide supply imbalances are corrected

Late March Update - Arauco



As of March 21 (as reported in ForestWeb)

- Restart timeframes are as noted in the table below (*from an unnamed Arauco company official as quoted by ForestWeb*)
- These are “just targets, nothing confirmed, nothing assured”
- No target date for restarting Arauco, which “suffered more damage than the other mills”
- “Arauco is not announcing prices for April because it is not sure about production, sales, and so on. If it invoices tonnage already in stock it will be at market level”
- Based on this article, total impact to Arauco should be a minimum of 250k tonnes Radiata SWD and 300k tonnes Eucalyptus HWD.

Mill	Pulp Capacity (000) Tonnes Per Year SWD = Radiata, HWD = Eucalyptus		Restart Timeframe (from March 21 st)
Valdivia	275 (SWD)	275 (HWD)	April
Licancel	70 (SWD)	70 (Other)	April
Nueva Aldea	430 (SWD)	430 (HWD)	2 - 3 months
Constitución	355 (unbleached)		2 - 4 months
Arauco	290 (SWD)	500 (HWD)	Undetermined

Late March Update - CMPC



As of March 17 (as reported in ForestWeb)

- CMPC hopes to restart some capacity in April, but at this time it is difficult to know how much will be possible as they are still assessing damage
- Equipment tests are now underway at all three mills
- Infrastructure issues have improved but they still have a long way to go
- Ports are operational but the rail connections to the ports are not expected to be operational until April. In the meantime the ports are reachable by road 'with delays enroute'
- CMPC is raising BEK prices by \$50 worldwide in April

Mill	Pulp Capacity (000) Tonnes Per Year SWD = Radiata, HWD = Eucalyptus	Restart Timeframe (from March 21 st)
Santa Fe	1,305 (HWD)	Unknown
Laja	260 (SWD)	Unknown
Pacifico	510 (SWD)	Unknown

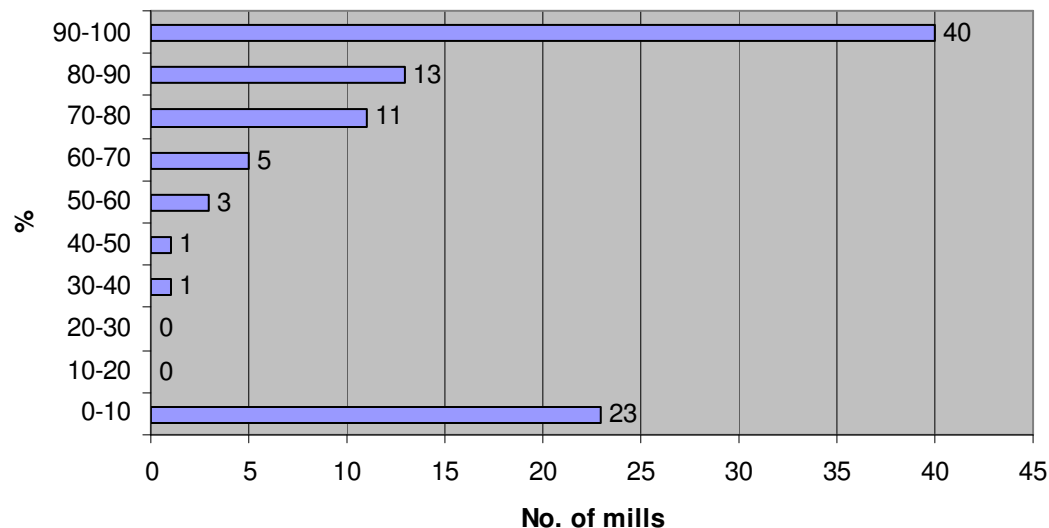
What does this mean for the Printing and Writing mills in North America?



Non-integrated mills will experience the largest increase in raw material cost and the largest squeeze on margins

- According to RISI estimates of a non-integrated mill making 34# CGW, a 20% increase in purchased pulp cost will increase the cost of the final product by 4.1%
- Very little of the Chilean pulp is shipped to NA
- Approximately 24% of the Printing and Writing mills in NA are non-integrated (23 out of 97)

Percent of NA mills self sufficient with respect to pulp needs



Cost challenges to these non-integrated mills will likely extend at least 3-4 quarters and significantly impact profit margins