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# *Global Forest, Paper & Packaging Industry Survey*

## 2013 edition – survey of 2012 results



# Leaders' message

Welcome to the PwC Global Forest, Paper & Packaging† Industry Survey — 2013 Edition. The Survey, now in its 16th year, provides insight into the industry's major companies and an overview of the issues and events shaping the industry. This year's Survey summarises the 2012 publicly available year-over-year financial information of the PwC Top 100 – the 100 largest forest, paper and packaging (FPP) companies in the world, ranked by sales revenue.

As this year's Survey results show, most key financial indicators remained consistent with 2011. Revenues and operating profits for the PwC Top 100 companies remained flat year over year.

The composition of the PwC Top 100 remained very stable. For the third year, the trend towards increased emerging market participation stalled; although, those represented generally moved up the list. The emerging market presence, at around 10% of Top 100 sales, understates the significance of those regions, due to industry structure and ownership. Emerging Asia especially is characterised by a high degree of market fragmentation as well as private company ownership.

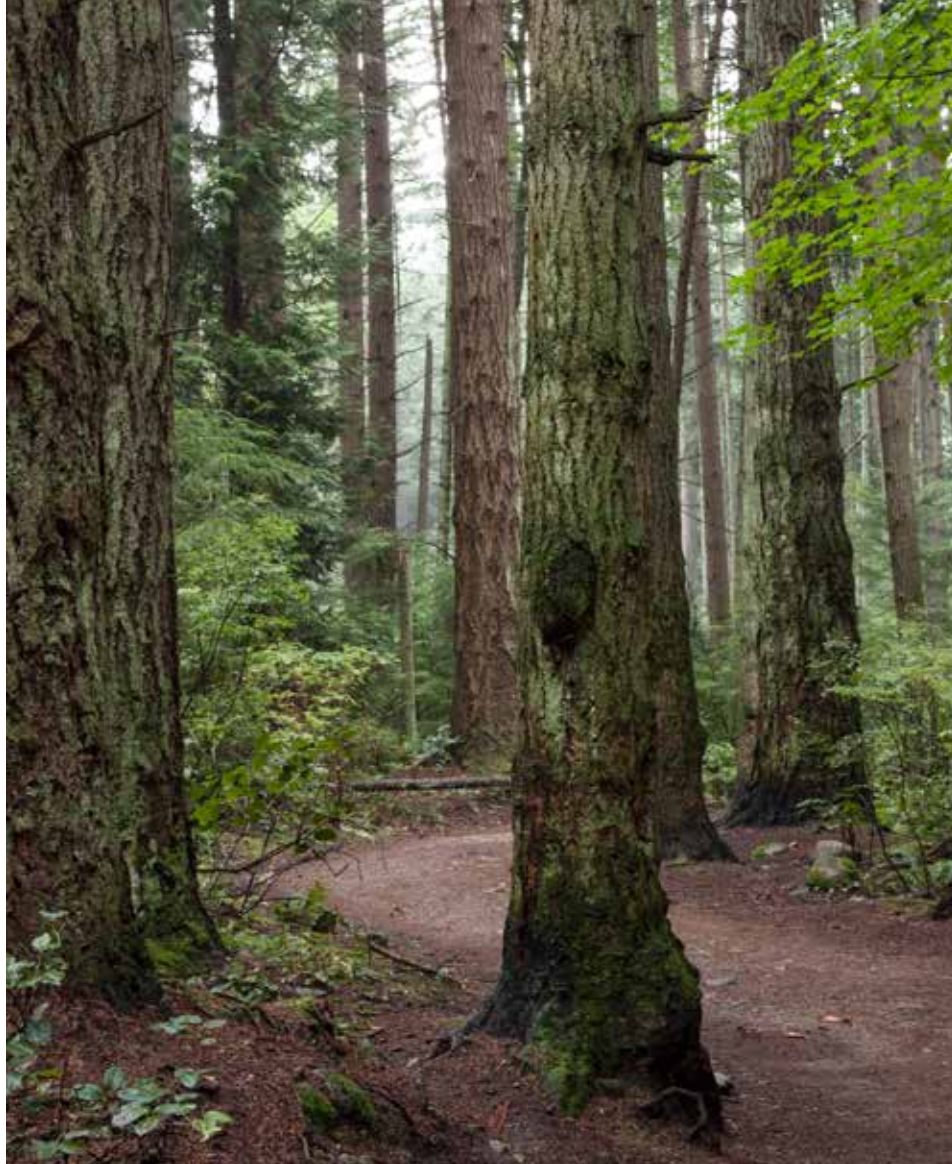
Regardless, we expect emerging market company participation in the Top 100 to increase in the coming years.

In May 2013, the second Global Forest Products Leadership Summit was held in Vancouver, Canada. During a series of international conferences and events held over several days, the Summit explored themes and issues for the future of the world's forests and forest products industries. Central to the Summit was PwC's 26th Annual Global Forest & Paper Industry Conference under the theme "Growing the Future", which stimulated extensive discussion around innovation and growth in a volatile world. The conference drew close to 500 CEOs, senior executives, customers, suppliers, financial analysts, government representatives and other stakeholders. The 27<sup>th</sup> Annual Conference will be held on 6 May, 2014 in Vancouver.

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With our thought leadership and depth of industry knowledge, PwC has been able to satisfy our clients' business needs and surpass their expectations by offering proactive solutions to help them identify and capitalise on trends. For more information about the services offered by PwC's Global Forest, Paper & Packaging Industry Practice, please contact one of the professionals in your region listed inside the back cover of this Survey. We hope you enjoy the 2013 edition of the PwC Global Forest, Paper & Packaging Industry Survey.

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**PwC Top 100 companies**  
(US \$ billions<sup>1</sup>)

	2012	2011	2010	2009	2008
Sales revenue	354.2	353.8	322.8	310.8	358.3
Operating profit	23.0	23.7	19.1	14.2	21.2
Net income (Loss)	10.4	10.7	19.3	5.1	(6.5)
Return on sales	6.5%	6.7%	5.9%	4.6%	5.9%
Return on capital employed <sup>2</sup> %	4.4%	4.1%	4.9%	2.7%	2.3%
Capital expenditures	22.2	21.9	17.3	18.4	23.8
Depreciation	20.6	22.3	20.0	20.8	20.6
EBITDA margin	12.3%	12.7%	12.1%	11.7%	11.7%

1. Throughout the Survey all currency references are in US dollars unless otherwise noted.

2. Refer to the Methodology section on page 12 for the definition of return on capital employed.

† Inclusive of paper packaging only.

# 2012 in perspective

According to the IMF statistics, Global GDP grew by 3.5%, which is a marked slow-down from the 3.8% recorded in 2011. This is of itself not surprising, given the pattern of slowing growth during 2011; taking this as a starting point, the overall performance in 2012 would seem to represent a steadying of GDP growth. Looking deeper into the numbers, however, it becomes apparent that growth (or recovery) was once again uneven across the globe, a trend which led some commentators to speak of a three-speed global economy (developing countries, mature countries and Europe) rather than the two-speed economy upon which we have commented before. Even the three-speed notion, however, needs to be viewed with some caution. Certainly the developing countries once again recorded impressive growth numbers (China 7.8%, India 6.5%, Indonesia 6.2%) but the Chinese performance (which represents a reduction from the 9.2% recorded in the previous year) is still heavily geared towards investment rather than consumption, and India suffered from exchange rate turbulence in the year (commented on in more detail below) which may be a hint of trouble to come. Growth in Brazil, which slowed down sharply in the second half of 2011, recovered only marginally in the second half of 2012, and overall growth for 2012 was below 1%.

In the developed markets, the US economy continued a steady, if unspectacular recovery (overall growth in the year of 2.2%) but Canada fell back after a relatively good first half performance and recorded annual growth of only 1.7%. The Japanese economy

rebounded strongly in the first half of the year from its 2011 recession, but this recovery ran out of steam later in the year, so that overall growth was 2% – respectable but less than the first half-year had indicated.

The performance of Europe in general (the third region in the three-speed global economy) and of the Eurozone in particular, was disappointing, with both stuck in slight recession (EU (0.2), Eurozone (0.5%)). As noted in our commentary on 2011, the high levels of government debt in many Eurozone countries and the austerity programs put in place to strengthen those countries' finances proved to be an additional brake on economic performance, which was already less than remarkable. Once again, Germany proved the most robust player in the pack, but even here growth was sluggish at 0.9% for the year, with a marked slow-down in the second half – a performance which was not sufficient to pull the Eurozone out of overall recession.

On the currency side, a number of important currencies showed considerable volatility against the US dollar in the year. India has already been mentioned: the rupee fell year-on-year by more than 15%. This is not, however, the only significant currency to slide: both the Japanese Yen and Brazilian Real fell against the dollar by more than 10% in the year. In the case of Japanese Yen, this represents a sharp reversal of a trend of steady appreciation which had been uninterrupted since 2008. For the Brazilian Real, this is the second successive year of sharp decline. The Euro's performance was almost a mirror-image of 2011 – in that year it remained surprisingly strong against the dollar for



most of the year, only to fall sharply towards the end. In 2012, the average rate for the year was some 8% below the corresponding figure for 2011, but the currency recovered at the end of the year, so that the year-end spot rate was in fact slightly higher than in 2011. It is important to bear these movements in mind when comparing year-on-year performance of the related regions as measured in this report. The Chinese Renminbi fluctuated only slightly against the dollar in the year – this reflects the close control exercised by the Chinese government and is not surprising.

The volatility seen in exchange rates is also to be found in both oil and pulp prices. WTI spot prices began the year at slightly over \$ 100 per barrel, from which they declined to below \$80 in mid-year, before rising again to close the year at just below \$ 100. Pulp prices, which had fallen steeply in 2011 from a peak in mid-year began to steady somewhat during 2012, with a gradual pick-up becoming apparent in the last part of the year.

All in all a mixed year, with some problems becoming apparent in certain of the strongly performing emerging economies and a moderately solid performance in many of the mature regions, offset by continuing difficulties in Europe. The level of sovereign debt upon which we commented in some depth in 2011, continues to be a headache for many Eurozone countries. Foreign exchange turbulence, notably in India and Brazil may be an early warning of difficulties in store in those countries in 2013.



## The Forest, Paper and Packaging Industry

The performance of the industry reflected in large measure the difficulties of doing business in the relatively volatile economic environment outlined above. Overall sales showed no increase against 2011; however the impact of the marked weakness of the Euro, Japanese Yen and Brazilian Real against the dollar (commented on above) has the effect of depressing the 2012 numbers for those countries in comparison with the previous year. After allowing for the impact of this, the sales performance in Europe (8% lower than in 2011 in US dollar terms) is very close to the 2011 number when expressed in Euros and the reported increase in 2012 sales for Japan (+5%) is understated. The performance in Europe – disappointing overall – reflects the difficulty of achieving growth in a region troubled by recession and high levels of unemployment. Of the remaining mature markets, the US industry performed best, achieving sales growth of 8%, reflecting

the steady improvement in the US economy generally. However, Canada struggled – the slow, if steady, improvement in US housing starts (from a level well-below that achieved before the economic crisis) was not sufficient to give the Canadian wood products industry the boost needed to record year-on-year growth.

Of the emerging markets, Emerging Asia was unable to repeat the growth recorded in 2011 – sales were flat in 2012. As noted above, the reported GDP growth for China is more influenced by investment than by consumption and as such is not a reliable number on which to base growth expectations for the industry. Latin America contracted slightly (3%). While the comparison to 2011 is affected by the weakness of the Brazilian Real, it is nevertheless clear that there was little growth in the region.

The performance of the different product lines within the industry continued to vary widely. Newsprint and fine paper continued to struggle against the impact

of electronic media, which resulted in falling newspaper circulations (with single sales being more affected than subscription sales) and on ongoing decline in advertising revenues. Free sheet and mechanical papers (both coated and uncoated) fell sharply. Tissue continued to perform well for the third year in succession and in the packaging sector both containerboard (especially in the food and beverage area) as well as cartonboard continued to show solid growth. On the wood products side, the continued recession in Europe and the slow recovery in US housing starts meant that market conditions remained difficult and sawmills (particularly in Europe) continued to suffer from overcapacity.

EBITDA margins in 2012 were fairly similar across all regions, with the sole exception of Latin America, where the level of 23.9% stands way out on its own, reflecting favourable input cost structures. The EBITDA performance of the remaining regions was quite volatile, with a strong improvement in the US but a dramatic collapse in Europe, the latter

reflecting both weak economic conditions and high unemployment as well as the increasing difficulty, commented on by several European players, in obtaining wood, a problem attributed by many of those affected to the demands of the bio-energy industry. At the level of net income, there was a strong improvement in the US and a turnaround in Canada, but very weak performance in Europe. Profit performance at both EBITDA and net income levels improved in the emerging markets.

The pattern of capital expenditure by region remained consistent with 2011, with a significant excess of capital expenditure over depreciation occurring only in emerging Asia, led once again by China, as well as Latin America. Investment in the US was also slightly ahead of depreciation (for the first time in several years) but in the other regions the level of capital expenditure remained modest, and indicated ongoing moves to reduce capacity in those sections of the industry which continue to perform poorly. In the case of China some slowdown in the rate of capital investment can be noted; after several years of significant capacity additions this may mark the beginning of a slow-down in the speed of increase, which in turn might

indicate a need to trim available capacity to match an economy which is growing at a less rapid pace.

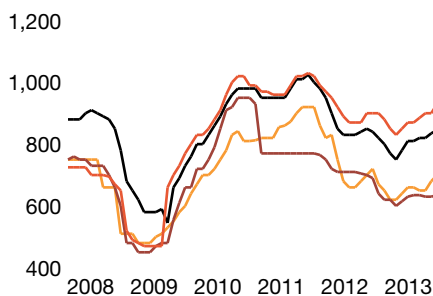
Merger and acquisition activity continued at a reasonable level, although many deals were for relatively modest amounts. Activity was driven by a number of differing factors, such as distressed situations (for example in European sawmilling), concentration on core business or a drive to acquire the necessary know-how to support either innovation or entry into new markets, the latter of which characterised a number of deals in the packaging sector. As the industry continues to look for further innovation, this activity may be expected to continue.

In summary, 2012 was a year of contrasts and one which throws out a number of significant challenges for the future. On the economic front, Europe – and the Eurozone in particular – is still awaiting a manufacturing upturn to pull itself out of recession; in contrast the US economy appears to have put the worst behind it, but the success of the Federal Reserve’s intention to withdraw liquidity from the economy in 2013 will be crucial. Of the developing markets, China is grappling with the challenge of

steering growth away from investment and towards consumption – this will involve stimulating domestic demand to compensate for weaker demand from the developed economies; India and Brazil seem set for some turbulence in the coming months.

On the forest, paper and packaging industry front it is to be expected that the ongoing decline in newsprint and fine papers will lead to further mill closures; attempts are also being made in some cases to convert mills to other uses (such as to packaging products). The continued overcapacity in sawmilling has led to many plants being mothballed and capacity reductions are clearly not yet finished. The packaging industry has performed well and is expected to continue to do so, but this industry remains fragmented and further consolidation is anticipated. In overall terms, the search for new products, new applications and other forms of innovation will need to be financed; those companies with strong profitability and cash flows from their core business will be best placed for the future. In this context, the overall return on capital, although it has improved, is still at an unsatisfactory level and 2013 will be a challenging year.

**Global NBSK Pulp Prices**  
(US \$ per tonne)



Canadian – delivered to US East  
Canadian/Nordic – delivered to Northern Europe  
China  
Western Europe

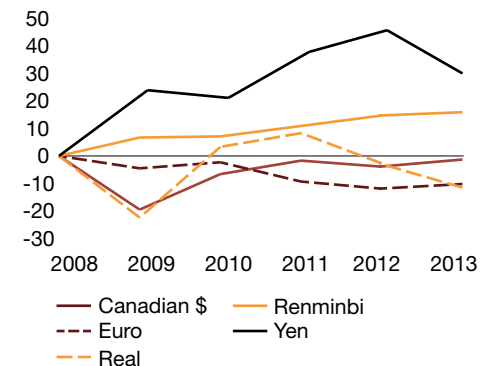
Source: RISI PPI Pulp & Paper Week

**Monthly Spot Crude Oil Prices**  
(US \$ per barrel)



Source: US Energy Information Administration, accessed at <http://www.eia.doe.gov/emeu/international/Crude1.xls>

**Appreciation of Major Currencies Against the US Dollar**  
(Percent)



Source: Onada.com

# PwC Top 100

## Highlights

The PwC Top 100 list remained relatively unchanged in 2012. No new companies were added this year. Notable movements include Rock-Tenn (US) jumping from 16th to 9th place as a result of its acquisition of Smurfit-Stone in May 2011. The current year included a full year of Smurfit-Stone's operations. Nampak dropped 13 spots to 91st place largely due to the weakness of the South African Rand.

## Sales and income

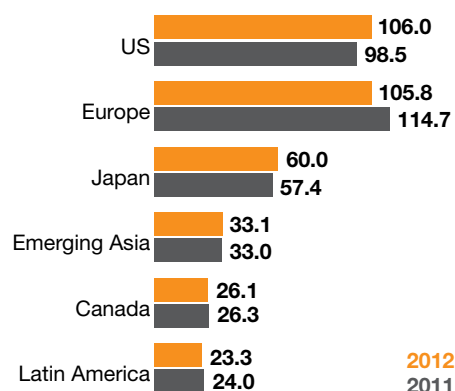
The PwC Top 100 reported total sales of \$354 billion in 2012 consistent with 2011. European sales declined 8% year over year largely due to currency fluctuations whereas US sales increased 8% as the US housing market began to recover. Consistent with previous years, the 20 largest companies accounted for nearly 60% of total sales. EBITDA of \$44 billion was also consistent with the prior year.

## EBITDA margins

EBITDA margins declined slightly to 12.3% in 2012 from 12.7% in the prior year. All regions apart from Europe and Japan saw improved margins. Latin America continued to lead with an EBITDA margin of 23.9%, compared to the US in second place with a margin of 14.6%.

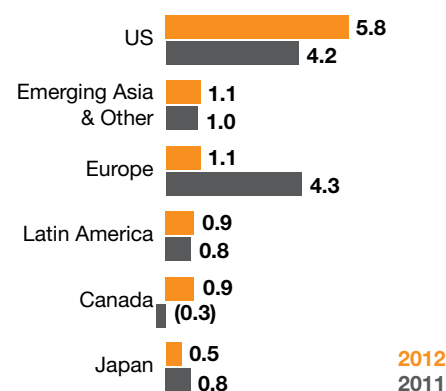
Klabin from Brazil topped the list of EBITDA margin leaders in 2012 at 44.1%.

### Sales (US \$ billions)



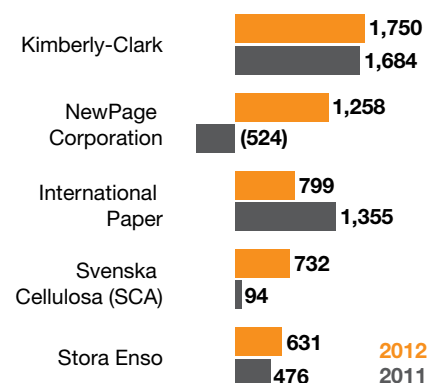
Source: PricewaterhouseCoopers LLP

### Net income (Loss) (US \$ billions)



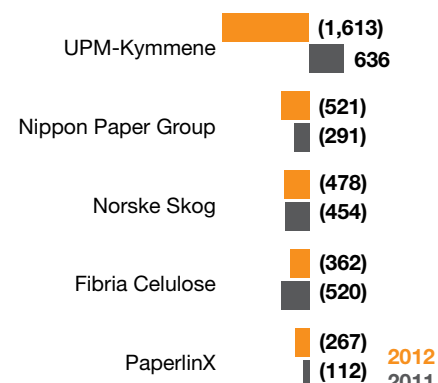
Source: PricewaterhouseCoopers LLP

### Highest earnings (US \$ millions)



Source: PricewaterhouseCoopers LLP

### Largest losses (US \$ billions)



Source: PricewaterhouseCoopers LLP



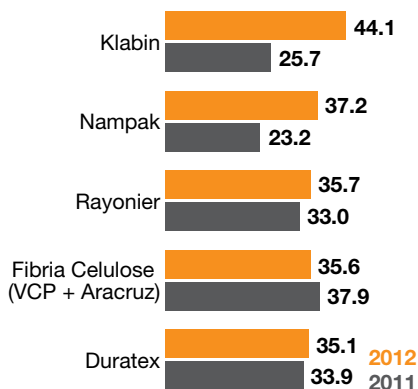


### Reinvestment ratio

Reinvestment ratio, calculated as capital investment as a percentage of depreciation, measures the extent that capital investment is replacing aging assets. In broad terms, a ratio in excess of 1.0 indicates an expansion of capacity. A ratio of less than 1.0 indicates capacity shrinkage and suggests that assets are being depreciated faster than they are being replaced.

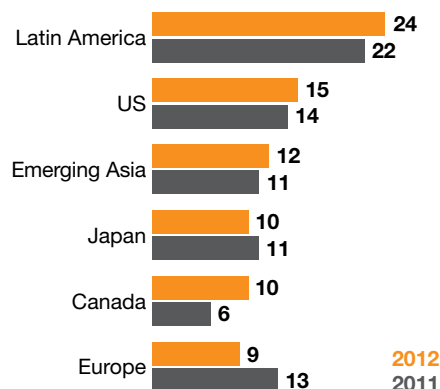
The overall reinvestment ratio averaged 1.08 in 2012 for the industry, compared to 0.98 in 2011 and 0.86 in 2010. Asia continued to have the highest reinvestment ratio at 2.43, down from 3.15 in 2011. Latin America at 1.68 and the US at 1.08 were the only other regions above 1.0. For many investors, the challenge continues to be the gap between the cost of capital and average industry returns that are less than the cost of capital.

### Highest EBIDTA margin (%)



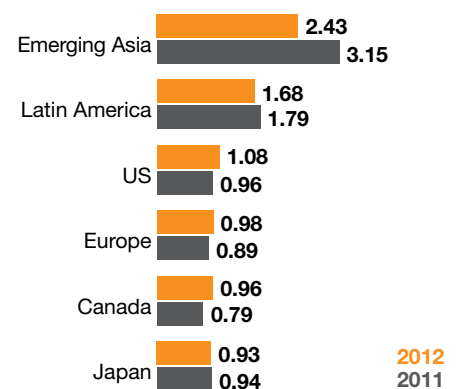
Source: PricewaterhouseCoopers LLP

### EBIDTA margin by region (%)



Source: PricewaterhouseCoopers LLP

### Reinvestment ratio (%)



Source: PricewaterhouseCoopers LLP



## Results by region

In US dollar terms, most regions were flat year over year in sales except for the US which showed an 8% increase over 2011, and Europe which showed an 8% decrease. The decrease in European sales is largely due to the decline in the Euro of approximately 8% in 2012.

### Europe

The Eurozone fell into the second recession in four years as a result of the ongoing sovereign debt crisis and other uncertainties in the region. As indicated above, results were also impacted by the 8% decline in the Euro in 2012.

### United States

Housing starts continued to show improvement in 2012. The increase from the 700,000 range in 2011 to the 800,000 range in 2012 resulted in improved demand for forest products. Housing starts are still below historical levels, however.

International Paper and Kimberly-Clark retained their first and second overall sales rankings in 2012.

## Financial Summary Information by Country/Region

(US \$ millions)

	Sales 2012 \$	Sales 2011 \$	% change	Net Income 2012 \$	Net Income 2011 \$	% change	EBITDA 2012 \$
US	106,043	98,504	8%	5,791	4,207	38%	15,499
Europe	105,771	114,717	-8%	1,120	4,299	-79%	9,482
Japan	60,005	57,414	5%	526	754	-30%	6,234
Emerging Asia & Other	33,052	32,969	0%	1,138	983	16%	4,112
Canada	26,070	26,268	-1%	856	(324)	365%	2,722
Latin America	23,256	23,977	-3%	920	778	18%	5,558
<b>Total</b>	<b>354,198</b>	<b>353,849</b>	<b>0%</b>	<b>10,351</b>	<b>10,697</b>	<b>-5%</b>	<b>43,608</b>

Note: Other includes South Africa and Australia

## Japan

Japanese companies showed a 5% growth in sales in 2012 as a result of continuing economic growth in the region following the tsunami in March 2011.

## Emerging Asia and other

The Other category grouped with Emerging Asia comprises Sappi and Nampak from South Africa, and Paperlinx from Australia. In South Africa, the Rand decreased 12% in US dollar terms, which negatively affected sales. Most of the other Asian companies had little or no growth due to the slowing of the Chinese economy.

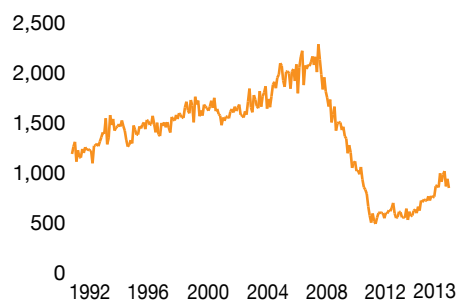
## Canada

Canadian companies posted slightly negative sales growth of 0.8%. Of note, Catalyst Paper's emergence from creditor protection in 2012 had a significant positive impact on the country's overall results due to large non-operating gains in 2012.

## Latin America

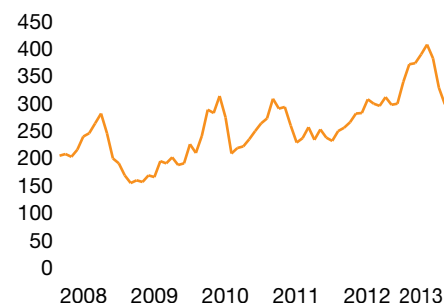
Latin American companies posted a decrease in sales of 3.0% in 2012. Due to its low input costs, Latin America again posted the highest regional EBITDA margin at 23.9% in 2012 compared to 21.7% in 2011.

**US housing starts – 20 year trend <sup>1</sup>**  
(Thousands of units)



1. Seasonally adjusted annual rate.  
Source: US Census Bureau

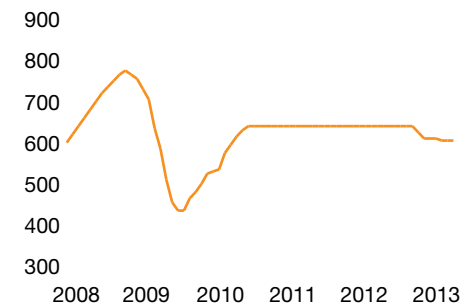
**North American building materials**



Lumber 2x4 #2&8 Btr KD Western SPF US \$ per mfbm

Source: Lumber—Random Lengths Yardstick

**North American newsprint prices**  
(Newsprint 30lb delivered to US East, US \$ per tonne)



Source: Pulp and Newsprint – RISI PPI Pulp & Paper Week

EBITDA 2011 \$	% change	EBITDA Margin 2012 %	EBITDA Margin 2011 %	ROCE 2012 %	ROCE 2011 %
13,651	14%	14.6%	13.9%	6.8	6.2
14,501	-35%	9.0%	12.6%	3.0	4.7
6,071	3%	10.4%	10.6%	2.3	2.4
3,775	9%	12.4%	11.5%	6.1	4.0
1,662	64%	10.4%	6.3%	3.1	0.9
5,200	7%	23.9%	21.7%	4.5	2.9
<b>44,860</b>	<b>-3%</b>	<b>12.3%</b>	<b>12.7%</b>	<b>4.4</b>	<b>4.1</b>

# PwC Top 100

## Top 100 Global Forest, Paper & Packaging Industry Companies

(US \$ millions)

Rank 2012	Rank 2011	Company name <sup>1</sup>	Country	Sales <sup>2</sup>		Net income (Loss)		EBITDA as a % of sales	
				2012 \$	2011 \$	2012 \$	2011 \$	2012 %	2011 %
1	1	International Paper	US	27,833	26,034	799	1,355	18%	13%
2	2	Kimberly-Clark	US	21,063	20,846	1,750	1,684	17%	17%
3	4	Oji Paper	Japan	15,161	14,193	277	296	11%	13%
4	5	UPM - Kymmene	Finland	13,423	14,019	(1,613)	636	-6%	13%
5	3	Stora Enso	Finland	13,398	15,268	631	476	12%	12%
6	6	Nippon Paper Group	Japan	13,030	13,251	(521)	(291)	11%	11%
7	7	Svenska Cellulosa (SCA)	Sweden	12,619	12,543	732	94	14%	17%
8	8	Smurfit Kappa	Ireland	9,432	10,244	320	304	13%	13%
9	16	Rock-Tenn	US	9,208	5,400	249	146	12%	12%
10	9	Mondi Group	UK	7,468	7,991	314	557	15%	17%
11	10	Metsaliitto	Finland	6,431	7,444	79	(219)	10%	7%
12	11	Sappi	South Africa	6,347	7,286	104	(232)	12%	7%
13	17	Weyerhaeuser	US	6,221	5,378	385	273	19%	19%
14	13	Rengo	Japan	6,158	5,965	89	129	11%	12%
15	14	Domtar	Canada	5,482	5,676	172	369	14%	17%
16	12	MeadWestvaco	US	5,459	6,060	205	246	12%	23%
17	23	Unicharm	Japan	5,355	4,542	337	404	15%	16%
18	22	Sumitomo Forestry	Japan	5,188	4,614	116	(185)	7%	0%
19	18	Daio Paper	Japan	5,112	5,137	(67)	67	10%	10%
20	15	Sequana Capital	France	4,953	5,492	(153)	(107)	3%	4%
21	24	Sonoco	US	4,786	4,499	196	218	-4%	11%
22	21	CMPC	Chile	4,759	4,786	202	492	18%	21%
23	20	Resolute Forest Products	Canada	4,503	4,810	(2)	41	5%	9%
24	26	Graphic Packaging	US	4,337	4,206	123	277	14%	11%
25	28	Nine Dragons Paper Holdings	China	4,304	3,774	225	312	16%	17%
26	25	Arauco	Chile	4,280	4,374	135	86	19%	3%
27	19	PaperlinX	Australia	4,260	4,812	(267)	(112)	-1%	-1%
28	29	Cascades	Canada	3,646	3,667	(11)	100	8%	5%
29	30	Fibria Celulose (VCP + Aracruz)	Brazil	3,174	3,506	(362)	(520)	36%	38%
30	31	NewPage Corporation	US	3,131	3,502	1,258	(524)	6%	4%
31	40	Shandong Chenming	China	3,130	2,714	35	94	12%	11%
32	27	DS Smith	UK	3,121	3,969	119	113	11%	8%
33	37	West Fraser Timber	Canada	3,001	2,794	87	74	16%	8%
34	32	Norske Skog	Norway	2,914	3,375	(478)	(454)	-11%	-6%
35	39	Hokuetsu Paper	Japan	2,882	2,726	160	68	14%	14%
36	41	Packaging Corp of America	US	2,844	2,620	164	158	21%	17%
37	46	Boise Cascade	US	2,779	2,248	41	(46)	3%	1%
38	43	Canfor	Canada	2,715	2,449	32	11	17%	7%
39	33	Lenzing	Austria	2,688	2,980	232	372	16%	23%
40	34	Suzano	Brazil	2,669	2,904	(94)	18	13%	27%
41	35	Holmen	Sweden	2,598	2,877	274	610	22%	37%
42	44	Boise Inc.	US	2,555	2,404	52	75	20%	14%
43	38	Mayr-Melnhof Karton	Austria	2,510	2,729	153	165	12%	13%
44	36	Sodra	Sweden	2,483	2,805	(85)	109	1%	12%
45	42	Mitsubishi Paper	Japan	2,436	2,536	7	174	6%	7%
46	49	Hengan International	Hong Kong	2,388	2,190	454	345	29%	22%
47	50	Kimberly-Clark Mexico	Mexico	2,227	2,158	315	294	28%	28%
48	45	Klabin	Brazil	2,140	2,329	387	109	44%	26%
49	47	Ahlstrom	Finland	2,138	2,238	(1)	(45)	5%	9%
50	48	The Lecta Group	UK	2,089	2,196	(88)	33	4%	10%

Rank 2012	Rank 2011	Company name <sup>1</sup>	Country	Sales <sup>2</sup>		Net income (Loss)		EBITDA as a % of sales	
				2012 \$	2011 \$	2012 \$	2011 \$	2012 %	2011 %
51	54	Universal Forest Products	US	2,055	1,822	24	5	4%	3%
52	51	Portucel	Portugal	1,970	2,067	271	273	26%	26%
53	55	Lee & Man Paper	China	1,897	1,803	174	237	13%	18%
54	61	Daiken	Japan	1,890	1,702	11	17	6%	6%
55	52	Clearwater Paper	US	1,874	1,928	64	40	12%	10%
56	56	Siam Pulp & Paper	Thailand	1,849	1,799	115	109	15%	16%
57	57	Duratex	Brazil	1,745	1,779	236	225	35%	34%
58	60	Tomoku	Japan	1,736	1,713	49	40	9%	9%
59	70	Louisiana-Pacific	US	1,716	1,357	29	(181)	11%	-5%
60	53	Sonae Industria	Portugal	1,693	1,877	(127)	(81)	7%	6%
61	58	Tembec	Canada	1,667	1,763	(82)	(3)	1%	5%
62	72	Shan Dong Sun Paper	China	1,655	1,340	35	77	4%	17%
63	62	P H Glatfelter	US	1,578	1,603	59	43	11%	17%
64	65	Rayonier	US	1,571	1,489	279	276	36%	33%
65	64	Cheng Loong	Taiwan	1,555	1,493	50	31	10%	7%
66	67	Billerud	Sweden	1,541	1,441	100	105	11%	17%
67	63	Hansol Paper	Korea	1,539	1,563	46	(5)	10%	11%
68	59	Verso Paper Holdings	US	1,475	1,722	(174)	(137)	9%	8%
69	71	Kinnevik (Korsnas)	Sweden	1,448	1,355	71	1,011	0%	17%
70	66	Shandong Huatai Paper	China	1,430	1,450	10	13	10%	14%
71	69	Heinzl Holding	Austria	1,406	1,415	40	71	6%	8%
72	68	Moelven	Norway	1,396	1,439	(6)	(15)	3%	3%
73	75	Masisa	Chile	1,349	1,251	51	69	8%	8%
74	83	KapStone Paper and Packaging	US	1,217	906	63	124	19%	17%
75	82	Norbord	Canada	1,149	965	72	(11)	21%	7%
76	76	Mercer International	Canada	1,073	1,238	(16)	70	13%	19%
77	77	ENCE	Spain	1,064	1,149	55	57	18%	15%
78	74	Catalyst	Canada	1,059	1,276	583	(985)	5%	-62%
79	79	The Pack	Japan	1,057	1,037	67	34	9%	8%
80	87	Plum Creek Timber	US	987	866	203	(16)	20%	19%
81	85	Moorim Group	Korea	971	900	(11)	(9)	10%	19%
82	80	Sveaskog	Sweden	932	1,037	318	139	24%	23%
83	73	EUROPAC	Spain	931	1,321	18	57	12%	13%
84	88	Western Forest Products	Canada	926	863	29	24	6%	7%
85	92	Ballarpur Industries	India	923	804	23	38	18%	19%
86	86	Bio Pappel (fr. Grupo Industrial Durango)	Mexico	912	888	50	6	15%	7%
87	84	Buckeye Technologies	US	895	905	90	124	25%	20%
88	89	Appleton Papers	US	850	857	(148)	(2)	-2%	7%
89	93	Interfor	Canada	850	767	(9)	(14)	0%	3%
90	81	Wausau-Mosinee Paper	US	822	1,035	1	(22)	5%	3%
91	78	Nampak	South Africa	804	1,042	146	83	37%	23%
92	90	Arctic Paper	Poland	800	857	7	9	4%	7%
93	91	Schweitzer-Mauduit	US	788	816	80	93	16%	20%
94	96	Corticeira Amorim	Portugal	687	689	41	35	15%	15%
95	97	Exacompta Clairefontaine	France	676	664	3	4	16%	5%
96	98	Altri	Portugal	672	658	67	31	29%	24%
97	95	Setra Group	Sweden	601	690	(17)	(9)	4%	2%
98	94	Reno De Medici	Italy	600	706	(16)	(4)	5%	6%
99	100	Pfleiderer	Germany	551	585	15	7	13%	12%
100	99	Groupe Gascogne	France	540	599	(159)	(37)	4%	5%
				<b>\$354,198</b>	<b>\$353,849</b>	<b>\$10,351</b>	<b>\$10,697</b>		

Source: PricewaterhouseCoopers LLP

#### Notes

- All companies have December 31, 2012 year ends except for those listed below:  
 March 31, 2012: All Japanese companies  
 April 30, 2012: DS Smith  
 June 30, 2012: PaperlinX, Ballarpur, Buckeye  
 September 30, 2012: Sappi, Rock-Tenn
- 2012 and 2011 Sales have been adjusted to exclude non-forest, paper and packaging revenue.

# Survey methodology

The PricewaterhouseCoopers Global Forest, Paper & Packaging Industry Survey examines the 100 largest forest, paper and packaging products companies in the world — whether state, private, publicly owned, or a division of a larger entity — ranked by sales, provided there is sufficient public disclosure to allow meaningful analysis.

The data reported is drawn from a number of sources including annual reports, websites, press releases and the companies. Information may be unaudited. Several companies, mainly privately owned entities, of sufficient size to warrant inclusion in the PwC Top 100 have been excluded due to no or limited financial information being available. These companies include but are not limited to:

## North America

Georgia-Pacific (part of Koch Industries), Kruger, Tolko and Menasha.

## Europe

Tetrapak (Sweden), SAICA (Spain), Fritz Egger and Prinzhorn Holding (both Austria), Elopak (Norway), Papierfabrik Palm (Germany), Fedrigoni Group (Italy) and Ilim Pulp (Russia).

## Asia Pacific

Asia Pulp and Paper (APP) (Indonesia and China), AsiaPacific Resources International (APRIL) (Singapore/Indonesia), and Visy Industries (Australia).

The PwC Top 100 results include only companies whose forest, paper and fibre packaging products business comprises more than 50% of total sales. Companies are grouped based on the location of their head offices. The 2011 comparative corporate data included in this Survey depends upon the data reported in the companies' 2012 annual reports. PwC takes no responsibility for the correctness of the extrapolated figures. The 2012 Japanese data is for the fiscal year ended March 31, 2012.

Return on Capital Employed (ROCE) is calculated as net income before unusual items, minority interest and interest expense, on an after-tax basis, divided by average total assets less average non-interest bearing current liabilities.

Unusual items have a significant bearing on the net income figure used for the purpose of calculating ROCE. As an example, in some cases, when reported earnings are negative, the effect of adding back unusual items results in a positive adjusted net income, and therefore a positive ROCE.

Restructuring charges, discontinued operations, exceptional tax credits, impairment charges, gain on the sale of fixed assets, and accounting changes are among the items commonly treated as unusual items and therefore excluded from the ROCE calculation.

Earnings before Interest, Taxes, Depreciation and Amortisation (EBITDA) is calculated as operating earnings plus depreciation and amortisation.

Foreign exchange fluctuations can have a significant impact on the data presented. This Survey has directly adopted the results of companies that report in US dollars; otherwise, we have translated income statement items at the 2012 and 2011 average rates for the calendar years (irrespective of corporate fiscal year-ends within 2012). Balance sheet items have been translated at the rates as of December 31, 2012 and 2011 respectively.

**SAVE THE DATE** for the 27<sup>th</sup> Annual PwC Global Forest & Paper Industry Conference taking place in Vancouver, British Columbia, Canada on May 6, 2014.

# 26<sup>th</sup> annual PwC Global Forest & Paper Industry Conference

The 26<sup>th</sup> annual PwC Global Forest & Paper Industry Conference was held in Vancouver, Canada on May 9, 2013. With the theme, Growing the future: Global strategies for sustainable success, the conference brought together close to 500 CEOs, senior executives, customers, suppliers, financial analysts, government representatives and other stakeholders. Through a series of presentations and discussions, conference speakers and panellists examined a wide range of factors affecting the forest and paper industry today. Discussions touched almost every segment of the industry ranging from the global forces that shape the world economy today, the financial performance of the industry, emerging technology and products, sustainable development and forest conservation.

## Economic outlook

Craig Wright, Chief Economist of the Royal Bank of Canada opened the conference with a presentation titled “Economic Outlook: Leaning into the Headwinds”. The presentation painted a picture of a generally recovering global economy. The talk touched on a wide range of economic indicators including impacts of world emerging economies on future global growth, state of the Canadian and US economies with particular emphasis on the US housing market, dollar exchange rate, corporate sector outlook and looming crises of increasing consumer debt.

## Financial performance

The conference financial performance panel suggested all signs are pointing to a continuing recovery in the North American forestry sector. With housing starts in the United States beginning to rebound and increasing log and lumber exports to China, there are improved opportunities for the solid wood and panel manufacturers. The conference panel indicated that increased returns in the future will depend on optimization of the existing assets.

## Spotlight on Brazil

The Spotlight on Brazil panel provided an exciting look at the forest industry in this rapidly growing South American country. The panel included several different perspectives on Brazilian forestry, including an overview from the Brazilian Pulp and Paper Association, a discussion of tree biotechnology, the economics for companies operating in the country and perspectives from the World Wildlife Fund on Brazilian forests. The panel discussion included the Brazilian approach to addressing the global demand for wood fibre, the need to preserve natural forests, the role that fast growing plantations play in reducing the pressure on natural forests, climate change and greenhouse gas emission reduction, role of new technologies, including biotechnology, in addressing global demand for wood and fibre, reduction of imports on the environment, and the social benefits of a strong forest industry.

## Global industry outlook

The Global Industry Outlook panel provided an overview of the European, Canadian and US forest industries from the perspective of the three national forest and paper industry organizations. Each of the regions is faced with different challenges and opportunities, however all three associations identified several key themes that need to be addressed in the near future including the regulatory burden imposed on the forestry sector, new markets and international competition, environmental stewardship and the climate change challenge, the aging labour force and the increasing demand for a skilled and educated work force.

## Executive perspectives

Closing the 2013 conference was a panel of industry CEO’s that included Marcelo Castelli, CEO Fibria Celulose (Brazil), Kevin Clarke, CEO Catalyst Paper (Canada), Jim Lopez, CEO Tembec (Canada), Peter Oswald, CEO Mondi Group (Europe and International), and David Scheible, CEO Graphic Packaging (U.S.). The CEO’s offered insights into the challenges faced by their organizations and the industry as a whole, and their views on possible solutions. Constant innovation, bio products, timber supply and regulatory constraints, aging workforce, labour shortage and recruitment strategies, were common themes of discussion.

# Publications

*PricewaterhouseCoopers Forest, Paper & Packaging practice publications are available for download from [www.pwc.com/fpp](http://www.pwc.com/fpp)*

## Global reviews



### *Sustainable packaging – myth or reality*

This report revisits the packaging debate and tracks the progress the industry has made towards closer collaboration between stakeholders that goes beyond the term sustainable packaging.

The UK packaging industry, leading retailers, manufacturers and consumer groups we spoke to are unanimously agreed that the much used sustainable packaging term should be phased out and the focus should be on ensuring packaging delivers maximum sustainability throughout the entire supply chain and is recoverable after use.

The conclusions show how fast-paced the industry is in developing new technologies and the use of exciting materials. The industry is working towards efficient products, packaging, transport and end of life solutions. The drive is to make the entire supply chain more efficient.



### *Global Forest and Paper Industry: Net Earnings Summary — Three months ended June 30, 2013*

In aggregate, Canadian forest and paper companies reported significantly improved net earnings from both the second quarter of 2012 and the first quarter of 2013. US housing starts increased throughout the first half of 2013 and reached the highest levels since 2008. In the United States, ten of the largest US forest and paper companies reported combined net earnings of \$1.3 billion for Q2 2013, up from \$1.1 billion in Q2 2012. Ten of the largest European based forest and paper companies reported net earnings of €339.0 million for the second quarter of 2013, down from €603.4 million in the same quarter of 2012. Six of the largest forest and paper companies in Japan posted net earnings of US \$264.3 million in the second quarter of 2013, and four of the largest forest and paper companies in the emerging markets reported net losses of US \$138.4 million in the second quarter of 2013.





### ***Change brings opportunities: Turn sustainability into your competitive advantage***

Our planet is changing, and so is the way we need to conduct our business.

For many sectors and businesses, significant new opportunities are emerging, particularly as markets are created for lower carbon and more sustainable goods and services. The most agile companies will anticipate these changes and create new products and services.

We work with you to create sustainable business value by evaluating the entire sustainability picture. This brochure offers information on how we can help your organization develop or improve strategies for a sustainable future.



### ***Dealing with disruption 16<sup>th</sup> Annual Global CEO Survey: Key findings in the forest, paper & packaging industry***

Forest, paper & packaging (FPP) CEOs aren't as pessimistic about the global economy as CEOs across our whole sample. But far fewer are confident that they'll be able to generate revenue growth this year. Why the discrepancy? The answer probably lies in structural changes now happening in the industry.



### ***Growing the future: forest, paper and packaging executives agree global collaboration is key to long-term sustainability***

PwC's 26th Annual Global Forest & Paper Industry Conference, brought together corporate CEOs, industry association leaders and a leading NGO for an animated round table discussion regarding the priorities facing the world's forest, paper and packaging sectors. While the specifics varied, all agreed that long-term sustainability depended on the industry's ability to:

1. Manage forest resources using the smallest environmental footprint possible
2. Optimize the use of fibre for new and existing products and markets
3. Operate in a way that delivers return on capital for its investors

While there are no simple solutions to these complex challenges, collaborative discussions involving a wide stakeholder community were seen to be essential for the long-term health of the industry



PricewaterhouseCoopers Global Forest, Paper & Packaging practice comprises a network of industry professionals located in over 35 countries around the world.

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