
Global Forest, Paper & Packaging Industry Survey

2012 edition – survey of 2011 results





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Paper & Packaging Industry Survey include:

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Leaders' message

Welcome to the PwC Global Forest, Paper & Packaging[†] Industry Survey — 2012 Edition. The Survey, now in its 15th 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 2011 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 improved slightly over 2010. Revenues for the PwC Top 100 companies rose by 9% in 2011, reflecting a combination of volume and sales price increases that began in late 2009. However, revenues started to trend downwards in the fourth quarter of 2011 due to the global economic crisis. Operating profits also improved as a result of the market recovery; although, the extent of the improvement

was uneven across sub-sectors and geographies. Input costs rose strongly; upstream companies were able to benefit and integrated producers were able to partially shield themselves. Non-integrated companies, however, suffered as not all could recover input cost increases in end-product prices. The continued weakness in the US dollar worked against export-oriented companies based in strong currency countries.

The composition of the PwC Top 100 remained relatively 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.

PwC Top 100 Companies (US \$ billions¹)

	2011	2010	2009	2008	2007
Sales Revenue	351.5	322.8	310.8	358.3	333.3
Operating Profit	21.7	19.1	14.2	21.2	26.1
Net Income (Loss)	10.4	19.3	5.1	(6.5)	13.8
Return on Sales	6.2%	5.9%	4.6%	5.9%	7.8%
Return on capital employed ² %	3.4%	4.9%	2.7%	2.3%	4.9%
Capital expenditures	21.9	17.3	18.4	23.8	24.5
Depreciation	22.3	20.0	20.8	20.6	19.9
EBITDA Margin	12.3%	12.1%	11.7%	11.7%	13.8%

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

2. Refer to the Methodology section on page 26 for the definition of return on capital employed.

† Inclusive of paper packaging only



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

In May 2012, 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 25th Annual Global Forest & Paper Industry Conference under the theme "Delivering Value", 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 26th Annual Conference will be held on 9 May, 2013 in Vancouver as part of the third Global Forest Products Leadership Summit.

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 2012 edition of the PwC Global Forest, Paper & Packaging Industry Survey.

Bruce McIntyre, Canadian Leader, Forest, Paper & Packaging Practice

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Max Blocker, United States Leader, Forest, Paper & Packaging Practice

Andrew McPherson, Australian Leader, Forest, Paper & Packaging Practice

2011 in perspective

According to the IMF statistics, global GDP grew in 2011 by 3.8%, which is slightly below the 4.0% reported for 2010. These overall numbers, however, conceal a marked slowing down of growth across the globe as the year progressed. Furthermore, overall economic growth was again split into contrasting halves, with the emerging markets performing much better than the developed economies – continuing the trend of two-speed global growth upon which we have commented before. China continued its strong economic performance with a growth rate of 9.2%, closely followed by India at 7.1 % and Indonesia at 6.5%. Even in these territories, though, growth slowed during the year. For example, first-quarter growth in China and India was 9.7% and 7.8% respectively, but by the fourth quarter these rates had declined to 8.9% and 6.1% – still significant when compared to other regions, but indicating some slow down.

In the developed economies, the US grew at only 1.8% and Canada at 2.4%, both again with slower growth towards the end of the year.

The performance of the EU in total – and the Eurozone in particular – remained sluggish, with growth in the EU as a whole of 1.6% and in the Eurozone of 1.4% – slightly below the overall 2010

level. But for a strong performance by Germany, which grew at 3.1% and continued to outpace the remaining Eurozone countries, growth in the Eurozone would have been even weaker. German growth itself had slowed by the end of the year, which makes growth prospects for the Eurozone for 2012 likely to be weak. The Japanese economy contracted by 0.9% in the year, following the earthquake and resulting tsunami that particularly affected economic performance in the second quarter of the year.

Growth remained uneven not only in geographical terms but also between different sectors of the economy. The recovery led by manufacturing in 2010 continued into the early part of 2011, but other sectors – notably residential construction in the US – failed to achieve any significant or sustained growth.

Input prices continued to rise on the back of what remained relatively strong demand from the emerging economies. Energy costs and commodity prices both showed some volatility, resulting in ongoing cost pressure for many producers. Oil prices, which had increased during 2010, continued to rise sharply in the early months of 2011 before falling back towards the end of the year.

On the currency side, the US dollar continued to weaken against most currencies for much of 2011, but this trend reversed at the end of the year. Year-end spot rates against the Euro, British pound and Canadian dollar were, in fact, stronger than at the end of 2010. This was not the case with the Chinese Renminbi, which is subject to close control by the Chinese government. Interestingly, the Eurozone's economic troubles did not spread to its currency until the end of the year – the average exchange rate of the Euro against the dollar being some 5% higher in 2011 than in 2010. The year-end spot rate, however, was appreciably lower.

The relatively weak economic performance of the developed countries has to be viewed against the background of high levels of government debt. During the year, debt proved difficult for many governments to tackle effectively and, by the end of 2011, had risen to levels viewed by many economists as unsustainable. By the end of the year, austerity programs started in many countries were beginning to affect economic performance in addition to the general economic slowdown. Indeed, some countries (for example, Greece) were in a period of sustained economic

contraction. Many developed economies were moving close to stagnation, and in some, recession in 2012 is a distinct possibility. Emerging countries faced a different challenge: how to maintain growth in light of the weak economic performance of many of their export customers. 2012 is likely to be a challenging year.

The Forest, Paper and Packaging Industry

The performance of the industry followed in large measure the trends shown in the global GDP development discussed above, with the Emerging Asia region having the strongest sales growth, led by China. Nevertheless, despite overall growth over 2010 of just over 9%, total sales revenue was still below the 2008 level. After Emerging Asia, the following regions performed most strongly: Latin America (+8.2%), Japan (+9.7%) and Europe (+10.3%). Growth in Europe, however, is impacted by the effect of translating Eurozone results into US dollar from a stronger Euro; after accounting for this, growth in Europe was somewhat less. Canada struggled, with the continuing softness in the US housing market affecting the performance of wood products companies.

Performance of the different product lines was varied. Fine paper and newsprint, in particular, continued to suffer from the impact of digital media, whereas tissue sustained the recovery noted in 2010. Packaging in general performed strongly. The overall packaging industry (both fibre and non-fibre) benefitted from a wide range of end-customers, which traditionally provides some protection against recession. Many wood products producers had a difficult year, especially in Canada and the US, where the ongoing weakness in new housing starts depressed demand. Sawmilling companies continued to struggle with overcapacity and, especially in Europe, the ongoing need for consolidation.

After rising strongly during most of 2010 before flattening somewhat towards the end of that year, pulp prices increased during the first part of 2011 and, in the case of deliveries to northern Europe, peaked at levels not seen for many years. A fairly sharp fall in pulp prices generally began in the latter half of the year as the global economy began to slow. Lumber prices also showed volatility during the year, and the trading environment became more difficult as the year progressed.

Despite this, EBITDA was encouraging in all regions except Emerging Asia and Latin America. In the latter case, however, EBITDA still remained the highest of all regions in percentage terms to sales. Europe recorded a particularly strong advance, suggesting more efficient operating models resulting from restructuring measures undertaken over the past years. Also encouraging were the improvements in the US and Japan. Canada, on the other hand, continued at a more or less unaltered, relatively depressed level. Year-on-year changes in operating profit levels were less dramatic but in general terms followed the EBITDA trends. Europe showed a strong improvement and other regions stayed relatively stable, with the only significant drop in profitability being in Latin America.

Despite this general fairly steady showing, return on sales was only 6.2%. Although an improvement on the previous year, this result is still below 2006 and 2007 levels and is insufficient to generate an adequate return on capital. Overall, net income fell sharply from the level recorded in 2010 to a level below 2006 and 2007. All regions suffered from this reduction; although, all but Canada remained profitable. This drop in profitability, which we picked up and commented on in our analysis of quarterly results, was particularly noticeable by the third quarter. Restructuring charges and impairment losses were recorded by many companies, notably in Europe and the US. Indeed, the majority of CEOs indicated that they had implemented cost-cutting initiatives in the year.

With net income falling so sharply, it is no surprise that return on capital employed – never particularly satisfactory in the industry – suffered as well, and the overall level of 3.4% is disappointing. There is clearly room for improvement here.

Overall, capital expenditure (\$21.9 billion) was significantly higher than in 2010 (\$17.3 billion) but still remained lower than the amounts spent prior to 2009. Total capital expenditure also stayed lower than depreciation for

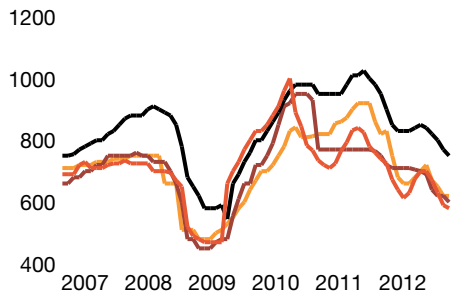
the third year in a row, reflecting the continuing efforts to eliminate overcapacity in the industry.

In line with the comments earlier on economic growth, capital expenditure in excess of depreciation was recorded only in Emerging Asia and Latin America, and in the case of China was significant.

All in all, 2011 was a year of contrasts with performance differing by geographical area and by product group, but in all cases against a backdrop of a weakening global economy. This situation will affect all players going into 2012. While a great deal has been achieved in increasing sales and strengthening profitability at the EBITDA level, much will depend on whether restructuring measures undertaken in 2011 and prior years are robust enough to enable companies to meet the challenges of 2012 and beyond. During 2011, the majority of CEOs we spoke to anticipated global economic activity would decline in 2012. They voiced concern about volatile or uncertain growth and, as a result, said they intended to trim costs further in 2012.

In summary, 2012 will present some significant challenges.

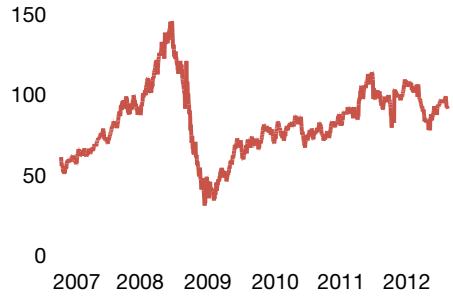
Global NBSK Pulp Prices
(US \$ per tonne)



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

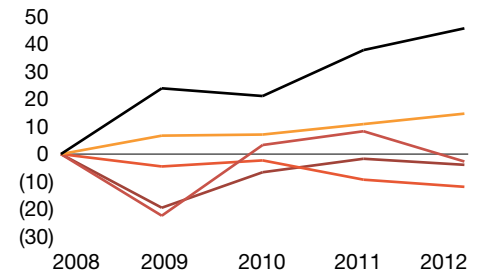
Source: RISI PPI Pulp & Paper Week

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)



Yen
Renminbi
Real
Euro
Canadian \$

Source: Onada.com



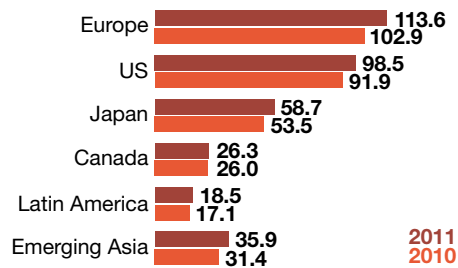
PwC Top 100

Highlights

The PwC Top 100 list remained relatively unchanged in 2011. Eight new companies were added primarily due to the availability of financial information, growth or acquisitions. Notable movements include Rock-Tenn (US) jumping

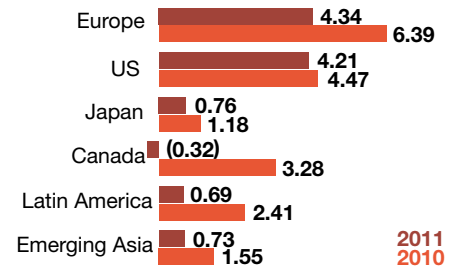
from 34th to 16th place as a result of its acquisition of Smurfit-Stone in May 2011. Also, Nine Dragons Paper Holdings (China) jumped from 50th to 27th place due to the opening of a number of new production facilities and acquisitions in China.

Sales (US \$ billions)



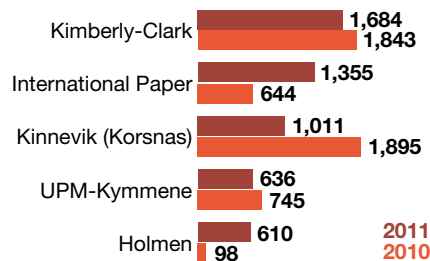
Source: PricewaterhouseCoopers LLP

Net income (Loss) (US \$ billions)



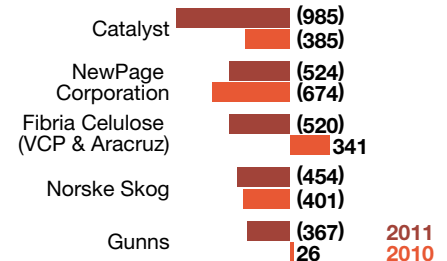
Source: PricewaterhouseCoopers LLP

Highest earnings (US \$ millions)



Source: PricewaterhouseCoopers LLP

Largest losses (US \$ billions)



Source: PricewaterhouseCoopers LLP

Sales and income

The PwC Top 100 reported total sales of \$351 billion in 2011, up 9% from \$323 billion in 2010 – a positive trend now in its third year. Consistent with previous years, the 20 largest companies accounted for nearly 60% of total sales.

EBITDA of \$43 billion represented an increase of 10% compared to prior year results. The increase, resulting largely from improving world economies as they recover from the economic downturn of 2008, has been tempered by the global economic crisis that began in the latter half of 2011. In particular, Europe, Japan and the US showed the largest improvements.



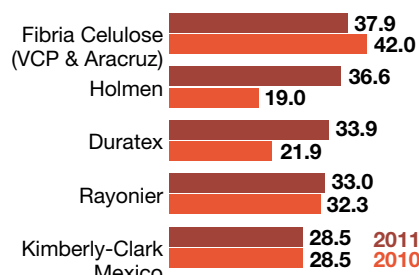
EBITDA margins

EBITDA margins improved slightly to 12.3% in 2011 from 12.1% in the prior year. All regions apart from Emerging Asia and other saw improved margins. Latin America continued to lead with an EBITDA margin of 24.7%, compared to the US in second place with a margin of 13.9%.

Fibra from Brazil topped the list of EBITDA margin leaders in 2011 at 37.9%. Holman from Sweden was second at 36.6%, primarily as a result of a large revaluation gain of its forest holdings.

Highest EBITDA margin

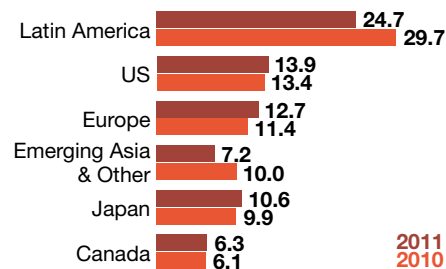
(%)



Source: PricewaterhouseCoopers LLP

EBITDA margin by region

(%)



Source: PricewaterhouseCoopers LLP

Financial Summary Information by Country/Region

(US \$ millions)

	Sales 2011 \$	Sales 2010 \$	% change	Net Income 2011 \$	Net Income 2010 \$	% change	EBITDA 2011 \$
Europe	\$113,586	\$102,949	10.3%	\$ 4,344	\$ 6,387	(32.2)%	\$14,408
US	98,504	91,914	7.2	4,207	4,466	(5.8)	13,651
Japan	58,718	53,515	9.7	758	1,179	(35.7)	6,234
Emerging Asia & Other	35,931	31,395	14.4	728	1,552	(53.1)	2,591
Canada	26,268	25,957	1.2	(324)	3,284	(109.9)	1,662
Latin America	18,490	17,092	8.2	687	2,406	(71.5)	4,559
Total	\$351,497	\$322,823	8.9%	\$10,400	\$19,273	(46.1)%	\$43,105

Note: Other includes South Africa and Australia

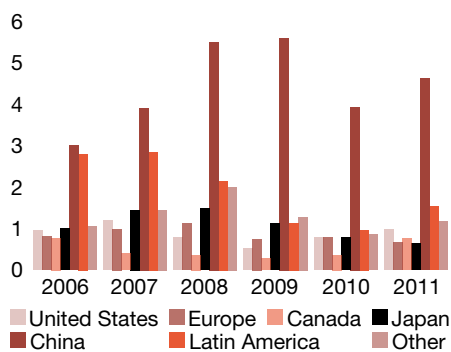
Reinvestment ratio

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 0.98 in 2011 for the industry, compared to 0.86 in 2010 and 0.88 in 2009. China continued to have the highest reinvestment ratio at 4.6, slightly higher than 3.9 in 2010. Latin America's reinvestment ratio was 1.5, while the remaining regions had ratios of less than 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.

Reinvestment ratio

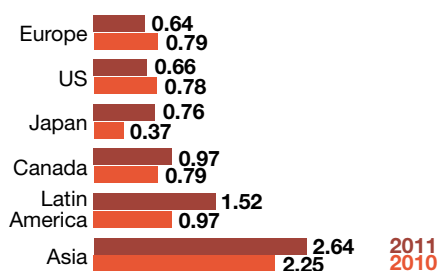
(Cumulative data)



Source: PricewaterhouseCoopers LLP

Reinvestment ratio

(%)



Source: PricewaterhouseCoopers LLP

EBITDA 2010	% change	EBITDA Margin 2011	EBITDA Margin 2010	ROCE 2011	ROCE 2010
\$		%	%		
\$11,689	23.3%	12.7%	11.4%	4.1	3.9
12,356	10.5	13.9	13.4	5.2	6.3
5,280	18.1	10.6	9.9	2.3	2.6
3,145	(17.6)	7.2	10.0	2.4	6.2
1,576	5.5	6.3	6.1	0.1	4.8
5,077	(10.2)	24.7	29.7	1.9	6.1
\$39,122	10.2%	12.3%	12.1%	3.4	4.9

Results by region

All regions showed increased sales in 2011. The real growth, however, was primarily in Asia with a double-digit growth rate in sales in 2011. Europe also recorded 10.3% growth in sales, in part due to the Euro increasing approximately 5% in 2011 against the US dollar.

Europe

The Eurozone's strong growth in sales did not translate into net earnings increases as price increases were offset by input cost increases. Also, during the latter half of the year, the Eurozone was impacted by the debt crisis, which decreased demand and prices.

United States

Although sluggish, housing starts continued to show some improvement in 2011. The increase from the 600,000 range in 2010 to the 700,000 range in 2011 resulted in improved demand for forest products. Housing starts are still well below historical levels, however.

On the corporate side, International Paper and Kimberly-Clark retained their first and second overall rankings in 2011.

Japan

Japanese companies also showed strong growth in sales in 2011; although, many companies were negatively impacted by the earthquake and tsunami disaster in March 2011.

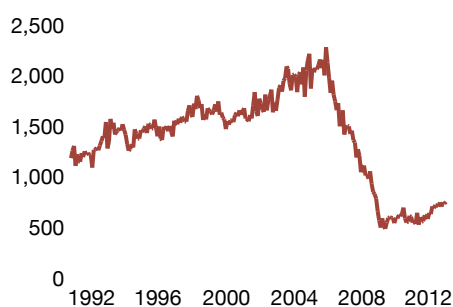
Emerging Asia and other

The Other category grouped with Emerging Asia comprises Sappi and Nampak from South Africa and Paperlinx from Australia. Every company in this grouping reported increased sales in 2010, and overall sales increased 14.4% this year over last. This increase mainly reflects the ongoing economic growth in the region, led by China.

Canada

Canadian companies posted the lowest sales growth of all regions at 1.2%. Of note, Catalyst Paper's filing for creditor protection in January 2012 had a significant negative impact on the country's overall results due to large impairment charges in 2011.

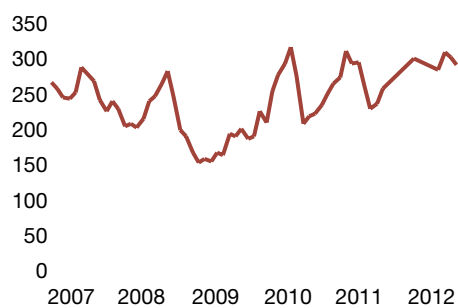
US housing starts – 20 year trend ¹
(Thousands of units)



1. Seasonally adjusted annual rate.

Source: US Census Bureau

North American building materials



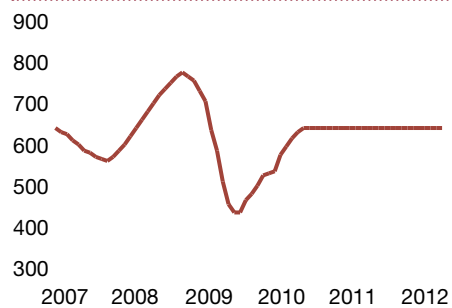
Lumber 2x4 #2&8 Btr KD Western SPF US \$ per mfbm

Source: Lumber—Random Lengths Yardstick

Latin America

Latin American companies posted a moderate increase in sales of 8.2% in 2011. Consistent with the global decline in the overall economic environment, this was down from the prior year's increase of 28.8%. Due to its low input costs, Latin America again posted the highest regional EBITDA margin at 24.7% in 2011 compared to 29.7% in 2010.

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



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



PwC Top 100

Top 100 Global Forest, Paper & Packaging Industry Companies

(US \$ millions)

Rank 2011	Rank 2010	Company name ¹	Country	Sales		Net income (Loss)		EBITDA as a % of sales	
				2011 \$	2010 \$	2011 \$	2010 \$	2011 %	2010 %
1	1	International Paper	US	\$ 26,034	\$ 25,179	\$ 1,355	\$ 644	12.8%	12.5%
2	2	Kimberly-Clark	US	20,846	19,746	1,684	1,843	16.9	18.2
3	5	Stora Enso	Finland	15,268	13,671	476	1,021	12.1	12.8
4	4	Oji Paper	Japan	14,193	13,097	296	284	12.5	10.3
5	7	UPM-Kymmene	Finland	14,019	11,848	636	745	12.8	17.5
6	6	Nippon Paper Group	Japan	13,251	12,502	(291)	343	10.5	9.2
7	3	Svenska Cellulosa (SCA)	Sweden	12,543	11,508	94	773	16.6	17.2
8	8	Smurfit Kappa	Ireland	10,244	8,865	304	77	13.1	12.3
9	9	Mondi Group	UK	7,991	8,269	557	297	16.7	9.2
10	10	Metsaliitto	Finland	7,444	7,139	(219)	226	7.2	2.9
11	15	Sappi	South Africa	7,286	6,572	(232)	66	6.7	11.4
12	11	MeadWestvaco	US	6,060	5,693	246	106	22.9	12.5
13	18	Rengo	Japan	5,965	5,221	129	194	12.4	8.6
14	14	Domtar	Canada	5,676	5,850	369	605	17.1	17.1
15	12	Sequana Capital	France	5,492	5,753	(107)	42	3.8	5.0
16	34	Rock-Tenn	US	5,400	3,001	146	226	11.8	17.3
17	19	Weyerhaeuser ²	US	5,378	5,629	273	1,190	18.9	15.1
18	17	Daio Paper	Japan	5,137	4,682	67	(92)	10.0	13.2
19	16	PaperlinX	Australia	4,812	4,665	(112)	(207)	(1.0)	0.4
20	21	Resolute Forest Products	Canada	4,810	4,746	41	2,614	8.8	7.0
21	29	CMPC	Chile	4,797	4,219	492	638	17.0	26.9
22	20	Sumitomo Forestry ²	Japan	4,614	3,975	(185)	27	(0.2)	4.3
23	23	Unicharm	Japan	4,542	4,073	404	281	16.2	13.8
24	24	Sonoco	US	4,499	4,124	218	201	11.2	20.3
25	22	Graphic Packaging	US	4,206	4,095	277	11	11.1	12.4
26	27	DS Smith	UK	3,969	3,201	113	59	8.4	5.1
27	50	Nine Dragons Paper Holdings	China	3,774	2,628	312	317	17.0	15.0
28	26	Cascades	Canada	3,667	3,843	100	17	5.2	10.3
29	32	Fibria Celulose (VCP & Aracruz)	Brazil	3,506	3,572	(520)	341	37.9	42.0
30	31	NewPage Corporation	US	3,502	3,596	(524)	(674)	3.9	(6.2)
31	28	Norske Skog	Norway	3,375	3,090	(454)	(401)	(5.5)	3.5
32	N/A	Lenzing ³	Austria	2,980	2,345	372	226	22.6	18.9
33	38	Suzano	Brazil	2,904	2,567	18	437	26.8	30.1
34	36	Holmen	Sweden	2,877	2,446	610	98	36.6	19.0
35	41	Sodra	Sweden	2,805	2,744	109	282	12.0	9.1
36	37	West Fraser Timber	Canada	2,794	2,801	74	161	7.9	0.6
37	39	Mayr-Melnhof Karton	Austria	2,729	2,362	165	143	13.0	13.5
38	47	Hokuetsu Paper	Japan	2,726	2,214	68	83	14.4	14.9
39	43	Shandong Chenming	China	2,714	2,519	94	170	11.4	12.5
40	42	Packaging Corp of America	US	2,620	2,454	158	205	16.7	13.9
41	35	Mitsubishi Paper	Japan	2,536	2,508	174	(18)	7.5	8.9
42	51	Canfor	Canada	2,449	2,359	11	68	7.3	(1.4)
43	45	Boise Inc.	US	2,404	2,094	75	63	14.2	15.8
44	59	Klabin	Brazil	2,329	2,083	109	318	13.7	26.8
45	46	Boise Cascade	US	2,248	2,241	(46)	(6)	0.5	1.0
46	40	Ahlstrom	Finland	2,238	2,515	(45)	24	9.0	4.7
47	49	The Lecta Group	UK	2,196	2,020	33	32	10.0	10.4
48	N/A	Hengan International ³	Hong Kong	2,190	1,729	345	320	21.9	25.3
49	52	Kimberly-Clark Mexico	Mexico	2,158	2,075	294	335	28.5	28.5
50	56	Portucel	Portugal	2,067	1,839	273	280	26.3	18.8

Rank 2011	Rank 2010	Company name ¹	Country	Sales		Net income (Loss)		EBITDA as a % of sales	
				2011 \$	2010 \$	2011 \$	2010 \$	2011 %	2010 %
51	61	Clearwater Paper	US	1,928	1,373	40	74	10.0	14.0
52	44	Sonae Industria	Portugal	1,895	1,804	(81)	(98)	5.4	0.1
53	54	Universal Forest Products	US	1,822	1,891	5	17	3.1	3.2
54	62	Lee & Man Paper	China	1,803	1,428	237	236	18.0	7.4
55	63	Siam Pulp & Paper	Thailand	1,799	1,633	109	110	16.1	5.3
56	89	Duratex	Brazil	1,779	1,559	225	266	33.9	21.9
57	57	Tembec	Canada	1,763	1,822	(3)	50	5.4	(5.6)
58	60	Verso Paper Holdings	US	1,723	1,605	(137)	(131)	8.2	(0.2)
59	58	Tomoku	Japan	1,713	1,556	40	36	8.7	7.8
60	55	Daiken	Japan	1,702	1,609	17	6	6.3	4.3
61	65	P H Glatfelter	US	1,603	1,455	43	54	17.2	17.3
62	66	Yuen Foong Yu Paper	Taiwan	1,592	1,544	67	46	6.7	5.6
63	70	Hansol Paper	Korea	1,563	1,350	(5)	25	11.2	14.0
64	78	Cheng Loong	Taiwan	1,493	1,229	31	50	7.3	9.0
65	68	Rayonier	US	1,489	1,315	276	218	33.0	32.3
66	82	Shandong Huatai Paper	China	1,450	1,042	13	14	14.4	16.2
67	75	Billerud	Sweden	1,441	1,228	105	98	17.0	10.1
68	76	Moelven	Norway	1,439	1,169	(15)	27	3.0	4.2
69	90	Heinzl Holding	Austria	1,415	710	71	9	7.8	24.6
70	72	Louisiana-Pacific	US	1,357	1,384	(181)	(39)	(4.5)	3.6
71	69	Kinnevik (Korsnas)	Sweden	1,355	1,195	1,011	1,895	16.8	16.5
72	83	Shan Dong Sun Paper	Norway	1,340	1,177	77	93	16.7	15.6
73	N/A	EUROPAC ³	Spain	1,321	1,071	57	35	12.6	8.8
74	67	Chuetsu Pulp & Paper	Japan	1,304	1,146	4	0	12.5	13.4
75	71	Catalyst	Canada	1,276	1,193	(985)	(385)	(62.0)	(17.4)
76	80	Mercer International	Canada	1,238	1,195	70	114	18.7	4.7
77	N/A	ENCE ³	Spain	1,149	1,103	57	86	14.6	(3.2)
78	73	Nampak ²	South Africa	1,042	1,273	83	62	13.0	3.8
79	79	The Pack	Japan	1,037	931	34	35	8.0	8.5
80	85	Sveaskog	Sweden	1,037	967	139	286	23.1	13.8
81	74	Wausau-Mosinee Paper	US	1,035	1,056	(22)	37	2.9	9.5
82	77	Masisa	Chile	1,017	1,017	69	72	9.9	17.5
83	93	Norbord	Canada	965	892	(11)	17	6.5	16.8
84	95	KapStone Paper and Packaging	US	906	783	124	65	17.4	14.5
85	88	Buckeye Technologies	US	905	756	124	115	20.1	25.8
86	N/A	Moorim Group ³	Korea	900	578	(9)	41	19.4	12.1
87	N/A	VPK Packaging ³	Germany	893	803	25	25	8.3	8.2
88	84	Plum Creek Timber	US	866	854	(16)	213	18.7	12.8
89	103	Western Forest Products	Canada	863	648	24	27	6.9	(4.4)
90	81	Appleton Papers	US	857	850	(2)	(32)	7.0	10.4
91	92	Schweitzer-Mauduit	US	816	740	93	65	19.9	20.2
92	97	Ballarpur Industries	India	804	853	38	154	19.3	8.3
93	106	Interfor	Canada	767	607	(14)	(4)	2.9	0.0
94	104	Samling Global	Asia	729	598	46	28	12.8	3.0
95	N/A	Reno De Medici ³	Italy	706	669	(4)	2	5.9	5.0
96	99	Setra Group	Sweden	690	646	(9)	9	1.9	(3.6)
97	98	Corticeira Amorim	Portugal	689	606	35	27	14.6	8.9
98	91	Exacompta Clairefontaine	France	664	713	4	4	5.4	7.0
99	N/A	Altri ³	Portugal	658	649	31	82	24.0	32.7
100	94	Gunns	Australia	641	577	(367)	26	(66.4)	15.1
Total				\$351,497	\$322,823	\$10,400	\$19,297	12.3%	12.1%

Source: PricewaterhouseCoopers LLP

Notes

- All companies have December 31, 2011 year ends except for those listed below:
 March 31, 2011: All Japanese companies
 April 30, 2011: DS Smith
 June 30, 2011: PaperlinX, Ballarpur, Buckeye
 September 30, 2011: Sappi, Rock-Tenn
- 2011 and 2010 Sales have been adjusted to exclude non-forest, paper and packaging revenue.
- New additions to the PwC Top 100 this year.

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), Asia Pacific 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 2010 comparative corporate data included in this Survey depends upon the data reported in the companies' 2011 annual reports. PwC takes no responsibility for the correctness of the extrapolated figures. The 2011 Japanese data is for the fiscal year ended March 31, 2011.

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 2011 and 2010 average rates for the calendar years (irrespective of corporate fiscal year-ends within 2011). Balance sheet items have been translated at the rates as of December 31, 2011 and 2010 respectively.

Save the date for the **26th Annual PwC Global Forest & Paper Industry Conference** taking place in Vancouver, British Columbia, Canada on **9 May 2013** at the Sheraton Wall Centre Hotel and Conference Centre.

25th annual PwC Global Forest & Paper Industry Conference

The 25th annual PwC Global Forest & Paper Industry Conference, with the theme of Delivering value, innovation and growth in a volatile world brought together over 400 CEOs, senior executives, customers, suppliers, financial analysts, government representatives and other stakeholders in Vancouver, Canada on 10 May 2012. Through a series of interconnected presentations and discussions, conference speakers and panellists looked at the macro and micro influences affecting the forest and paper industry, providing insight on everything from geopolitical forces present in the world today, to discussions on sustainability practices and the influence of digitization on paper production.

A common theme throughout the day was the continued demand from customers that the forest and paper products industry embrace sustainable environmental practices and Corporate Social Responsibility (CSR). Another key theme was that the industry must work to secure a smart, youthful work force to keep pace with changes in technology and provide the innovation necessary to support the industry's future growth.

Global geopolitical landscape

The conference opened with an engaging presentation by Eurasia Group's Willis Sparks. Mr. Sparks' wide ranging discussion focused on global political risk, but also touched on Venezuelan energy policy, recent political developments in the United States, the future of the European Union and rapidly increasing labour costs in China.

Financial performance

The conference financial performance panel was cautiously optimistic that the markets for forest and paper products are improving. Housing starts in the United States have shown incremental improvements over the past year, although are still well off historical average levels. Investors continue to demand growth, and green energy could be the potential growth technology to attract new investment to the sector. In the near term, investors can expect continuing volatility in both earnings and growth.

The future of paper and communications in a digital world

Delegates were treated to a revealing in-depth discussion by three of Canada's most prominent newspaper and media industry executives, who discussed demographics of readership and the ways that consumers access their media content. The media industry, despite the constant state of disruption caused by new digital technology, continues to maintain a healthy appetite for new and high quality paper products. The panel made a unanimous call to paper producers to work together with the print media industry to find ways to maintain a sustainable product delivery model that will be of benefit to both sides.

Market outlook

A clear message from a panel discussing market outlooks was that the forest and paper industry must look toward consolidation, sustainable business practices and supply chain management in order to see sustainable growth and profit in the near and long term. Accessing emerging markets was once again a focus of the discussion, with particular focus on China and the surrounding Asian markets. Building products markets are slowly recovering and should provide future opportunities. Pulp markets have come off the recent high points and are expected to recover more slowly with weak European paper demand forecasted.

Executive perspectives

The PwC Conference was part of the week-long Global Forest Products Leadership Summit 2012, a five day series of events and conferences focused on the global pulp, paper, wood products and fibre-based packaging industries. Organisations participating in Summit 2012 included The Pulp and Paper Products Council (PPPC) and International WOOD Markets Group.

Closing the 2012 conference was a panel of CEO's that included John Williams, CEO of Domtar, Ken Shields, CEO of Conifex and John Cruickshank, Publisher of the Toronto Star. The CEO's offered unique insight into the markets for their products and the business strategies they will employ to achieve long term sustainable growth.

Publications

PricewaterhouseCoopers Forest, Paper & Packaging practice publications are available for download from www.pwc.com/fpp

Global Reviews



Sustainable packaging – myth or reality

This new 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, 2012

The 2012 second quarter net earnings reports for the Canadian forest and paper companies show a distinct quarter to quarter change in fortunes between the Western and Eastern based companies. The lumber and solid wood segment of the industry is experiencing slow but steady improvements, based primarily on the gradually improving US housing market. Northern Bleached Softwood Pulp (NBSK) prices continued to decline from the record highs reached in Q2 2011.



A homecoming for US manufacturing? Why a resurgence in US manufacturing may be the next big bet

The manufacturing sector in the US is rebounding. Is this a cyclical recovery or could it be an indication of a more sustained one? PwC looks at possible structural changes in seven key areas that could lead to a sustained recovery and help reverse the offshoring of R&D and production in the manufacturing sector.

The key factors that could impact reshoring decisions include labor, materials, transportation/energy costs, market demand, the availability of talent and capital, tax rates, and currency fluctuations.



Delivering results: Key findings in the FPP industry

Forest, paper & packaging CEOs are gearing their companies for growth longer term despite the present gloom and the restructuring plans for their own businesses. They see new products and services as a main opportunity for growth....but talent challenges are looming. What else did they tell us?

Technical issues



Forest Industry: application review of IAS 41 Agriculture: The fair value of standing timber, 2011 edition

The application of fair value to standing timber requires a considerable degree of judgment, and the presentation of this type of valuation is of growing interest. In 2009, we published a study on how fair value was being applied by forest owning companies applying IFRS. In this 2011 study, we have reviewed the manner in which fair value is being applied, providing a follow up on the insights published in 2009 and highlighting certain observations on the difficulties, as well as similarities and differences.



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

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