

# Global Forest, Paper & Packaging Industry Survey

2009 Edition – Survey of 2008 Results





Key contributors to the PwC 2009 Global Forest, Paper & Packaging Industry Survey include:

Craig Campbell  
Hosni Zeaiter

Clive Suckling  
Linda Cormano

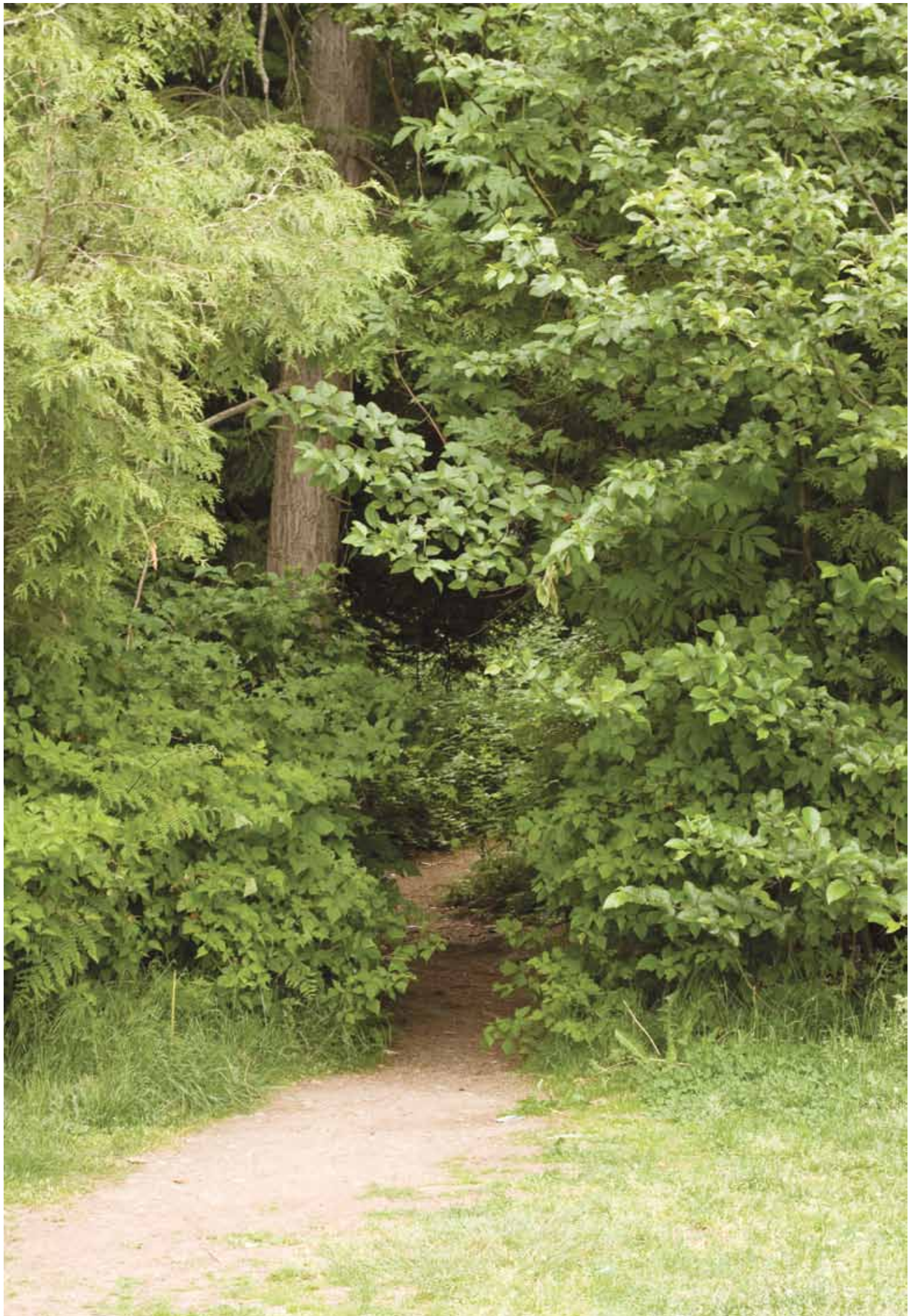
Bruce McIntyre  
Elizabeth Montgomery

Ken Legg

Linda Castagna

# Contents

Leaders' message . . . . .	.1
2008 in perspective . . . . .	.3
PwC Top 100 . . . . .	.8
Highlights . . . . .	.8
List of companies . . . . .	.12
Results by country/region . . . . .	.14
Survey methodology . . . . .	.24
PricewaterhouseCoopers' 22 <sup>nd</sup> Annual Global Forest & Paper Industry Conference . . . . .	.26
Publications . . . . .	.30
PricewaterhouseCoopers' Global Forest, Paper & Packaging Contacts . . . . .	Inside back cover



# Leaders' message

Welcome to the PricewaterhouseCoopers Global Forest, Paper & Packaging Industry Survey<sup>†</sup> – 2009 Edition. The goal of the Survey, now in its 12th year, is to provide insight into the major companies and an overview of the issues and events shaping the industry. This year's Survey summarises the 2008 publicly available financial information for the PwC Top 100, the 100 largest forest, paper and packaging (FPP) companies in the world, ranked by sales revenue.

This year's Survey results reflect the significant challenges faced by the sector, with the PwC Top 100 companies' net income sliding into the red, as well as return on equity and return on capital employed falling sharply from the levels seen in 2007. Large sections of the FPP industry are struggling to survive in the current global recession and there can be little doubt that major changes will need to occur in order for companies to remain competitive in the face of falling global demand. Whether or not the industry will truly be transformed — either via long-overdue consolidation, notably in Europe, or a shift in business models, or both — remains to be seen.

Our 22nd Annual Global Forest & Paper Industry Conference held in May 2009 in Vancouver, Canada stimulated extensive discussion of the industry's future, particularly around bio-energy and the opportunities and challenges it may create for the sector. The conference drew close to 400 executives, engaging them in dialogue about the challenges and opportunities facing the industry. We include a summary of the event in this report, starting on page 26 and more details are available on our website: [www.pwc.com/forestconf09](http://www.pwc.com/forestconf09). We look forward to hosting the 23rd Annual Conference in Vancouver on 11 May, 2010.

PricewaterhouseCoopers' thought leadership and depth of industry knowledge have enabled us 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 PricewaterhouseCoopers' 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 2009 edition of the PricewaterhouseCoopers Global Forest, Paper & Packaging Industry Survey.

Clive Suckling  
Global Leader,  
Forest, Paper & Packaging  
PricewaterhouseCoopers  
London, UK

Craig Campbell  
Partner, Performance Improvement,  
Forest, Paper & Packaging  
PricewaterhouseCoopers  
Vancouver, Canada

**Table 1: PwC Top 100 Companies**  
(US \$ billions<sup>1</sup>)

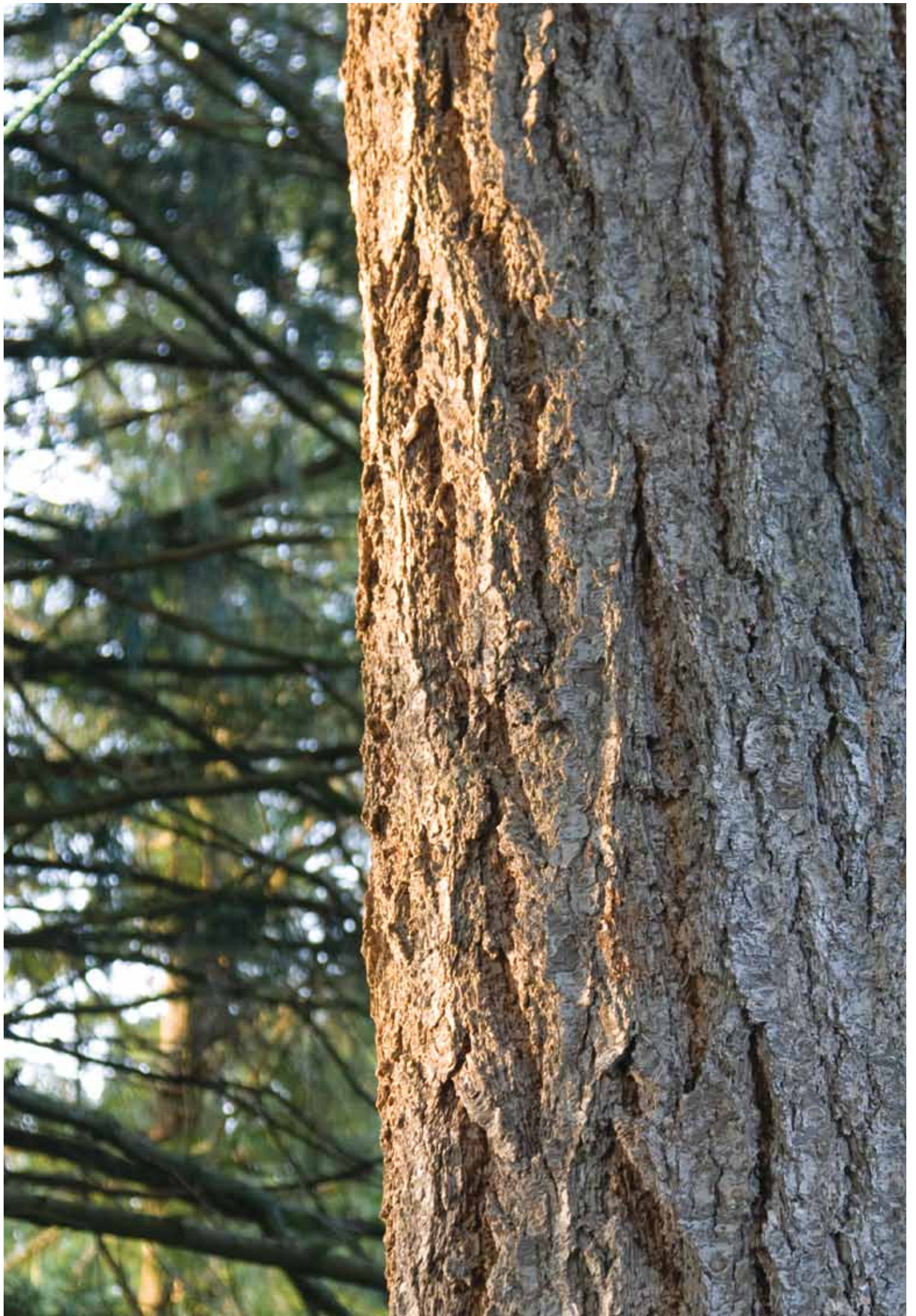
	2008	2007	2006	2005	2004
	\$	\$	\$	\$	\$
Sales revenue	357.1	333.3	317.3	335.9	328.2
Operating profit	21.2	26.1	23.5	21.7	24.5
Net income (loss)	(8.0)	13.8	11.9	9.2	13.7
Return on equity (%)	1.9%	8.0%	6.5%	6.2%	9.4%
Return on capital employed <sup>2</sup> (%)	2.4%	4.9%	4.6%	4.9%	5.3%
Capital expenditures	24.8	24.5	21.9	20.6	19.3
Depreciation	20.9	19.9	20.6	21.4	21.9
Cash flow from operations <sup>3</sup>	26.4	30.8	34.8	29.9	35.7

1. Throughout the Survey all currency references are in US dollars unless otherwise noted. Source: PricewaterhouseCoopers LLP

2. Refer to the Methodology section on page 24 for the definition of return on capital employed.

3. 2007 and 2008 cash flow are reported before working capital.

† Inclusive of paper packaging only



# 2008 in perspective

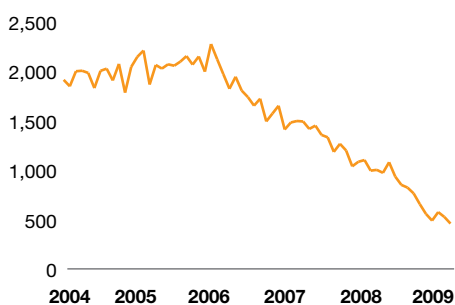
The performance of the PwC Top 100 is strongly influenced by the general global economic environment. The North American wood industry started 2008 already facing the impact of the US housing downturn, on top of the continued suffering from relatively weak financial performance. The poor results spread to the entire global FPP industry by the end of the year. In the second half of 2008 the connected nature of the global economy was made sharply evident, as first credit markets, then the wider economy, deteriorated rapidly around the globe, tipping into a global recession in the last quarter.

GDP growth rates fell around the world in 2008, with some regions contracting during the last quarter. Nearly every segment of the industry suffered from significant drops in demand during the second half of the year, accelerating in the last quarter due to the grim economic situation. Collapsing demand led to stockpiling and inventory build-up in some sectors. The industry responded to pressure on demand with downtime; in some cases permanent capacity closures in developed markets, with postponements and cancellations of capacity expansion plans in emerging markets. The impact on prices was mixed; a key factor has been the extent to which producers have been able to adjust their supply response quickly to demand.

Most FPP companies are looking to weather the economic storm by carefully examining their strategies and operations. The crisis is prompting nearly all companies to focus on cash — tighter management of working capital and cost cutting to minimise cash outflows.

Tight credit markets mean that access to finance is becoming particularly critical. Some companies, particularly in North America, are having difficulties refinancing debt and finding adequate credit facilities. Our Survey results show that balance sheet gearing (debt as a percentage of equity) for the PwC Top 100 companies increased sharply from an estimated 90% at the end of 2007 to approximately 130% at the end of 2008. For US companies, the gearing ratio nearly doubled over that period to reach 210%, the highest gearing level of any region. The strategies of many companies are now driven by the need to reduce debt through a singular focus on cash generation.

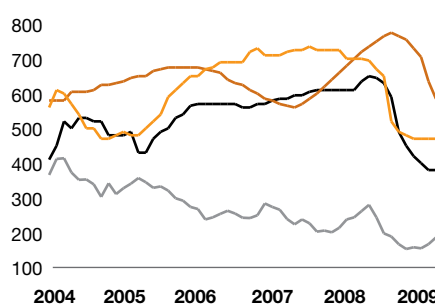
**Figure 1: US Housing Starts**<sup>1</sup>  
(Thousands of units)



Source: US Census Bureau

1. Seasonally adjusted annual rate.

**Figure 2: North American Commodity Prices**  
(US \$ per tonne)



NBSK delivered to US East  
NBHK delivered to US East  
Newsprint 30 lb delivered to US East  
Lumber 2x4 #2&Btr KD Western SPF - (US \$ per mfbm)

Sources: Lumber — Random Lengths Yardstick  
Pulp and Newsprint — RISI PPI Markets and Prices

Capital expenditures have been reduced and for many companies, only projects critical to the essential maintenance of the business and select high return projects are approved at a time when cash preservation and cost control take top priority.

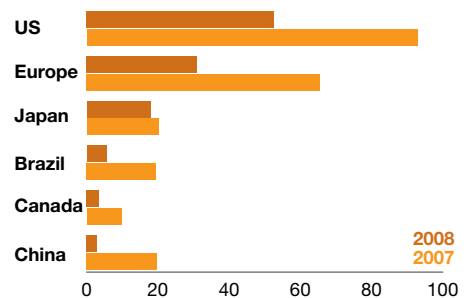
Some companies have been fairly successful at aligning production with demand to preserve liquidity, either via permanent mill closures or by market-related downtime. While these measures serve to improve competitiveness, they cause a substantial negative impact on short-term results. The industry as a whole has taken billions of dollars in restructuring, severance and impairment charges related to curtailments and closures.

For some companies, salaried staff reductions and lower selling, general and administrative (SG&A) expenses are contributing to achieving greater operating results. In the first half of the year, these gains were often negated by high fibre and energy costs. Input prices started to ease in the last quarter of 2008 as the recession gripped the global economy, however lower volumes also meant higher per unit manufacturing costs as the industry looked to adjust supply to match shrinking demand. Falling demand also created pressure on selling prices. Sharp shifts in the exchange rates of a number of currencies against the US dollar also had a major impact on results.

An objective measure of investor confidence is the movement in market capitalisation of FPP companies over the course of 2008.

The share prices of FPP companies fell dramatically during 2008. The total market capitalisation of the PwC Top 100 companies in the main geographies fell by approximately \$120 billion, or 50%, from 2007. This compares with a total fall of 34% in the Dow Jones Industrial index over the same period, indicating the extent of scepticism about the earnings prospects for the sector. For most of the main companies in North America and Europe, market caps had fallen below or even well below reported book values as at the end of 2008. As Figure 3 shows, the drops were unevenly spread, with Chinese and Brazilian stocks most out of favour, declining 81% and 71% respectively. In comparison, Japanese companies' valuations dropped much less dramatically, down 11%.

Figure 3: Market Capitalisation of the PwC Top 100 (US \$ billions)



Source: PricewaterhouseCoopers



## Fibre

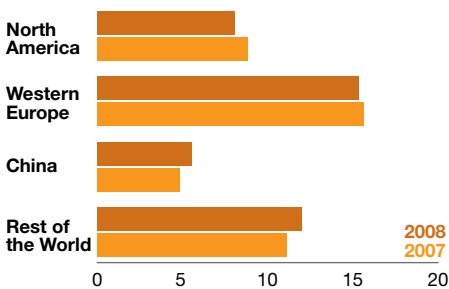
Fibre is the largest component of production cost for most FPP products. As a result, the impact of fibre costs on the industry’s profitability is significant. Fibre ranges from raw logs to wood chips to recycled pulp and paper. Prices for wood fibre fell in the second half of 2008 as demand for paper and commodity products plummeted. The cost of fibre is heavily dependent on demand for finished products. Pulp prices reached record highs in July of 2008, but fell dramatically in the second half of the year.

In September and October 2008, Chinese pulp imports dropped, following the global trend. In November and December though, imports rose despite depressed paper demand, indicating re-stocking, and substitution by buyers for higher cost domestic sources or stockpiling to take advantage of reduced market pulp prices. During early 2009, steady demand from China helped to prop up pulp prices globally.

Recovered fibre prices collapsed even more fully in late 2008, with the US seeing the sharpest decline, as the effects of a buying “shutdown” in China were felt around the world. In recent months there has been some recovery in secondary fibre prices.

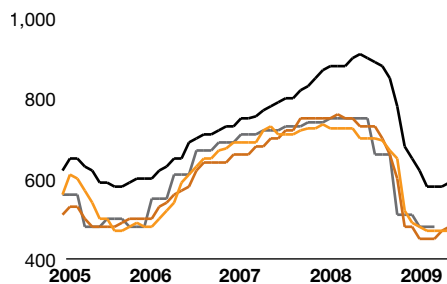
In some regions, the growing demand for wood energy feedstock has created a “new influencer” of timber prices. Ensuring secure access to reasonably priced fibre remains a strategic imperative for the long-term. Competition for raw materials is likely to get tighter as demand from new industries, such as renewable energy, increases. Owning or having access to raw material, production and logistics expertise should generate competitive advantage for companies able to achieve it. Closer fibre supply chain partnerships should also yield significant advantages over the long term.

**Figure 4: World Shipments Market Pulp**  
(Millions of tonnes)



Source: RISI PPI Pulp & Paper Week

**Figure 5: 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

## Power

Pulp and papermaking are energy-intensive industries, so companies are heavily exposed to risks relating to changes in the price of energy, particularly gas and electricity. In 2008 energy spot prices were extraordinarily volatile, with strong increases in the first half of the year and sharp drops in the last quarter, mirroring the volatility in oil prices. By the beginning of 2009, energy prices, both in the spot and forward markets, were substantially lower than a year earlier.

Companies use several strategies to reduce their exposure to the risk inherent in buying energy on the spot markets. In addition to hedging strategies, most companies use long-term contracts to limit exposure; in Scandinavia industry players are important members of consortiums funding power generation projects to ensure a stable supply of energy. Furthermore the industry has long been a user of woody biomass to generate a significant portion of its own energy requirements and has taken further steps in this direction both to reduce energy input costs and to enhance energy security. In some cases producers have become net energy suppliers, often benefiting from enhanced pricing through green energy schemes.

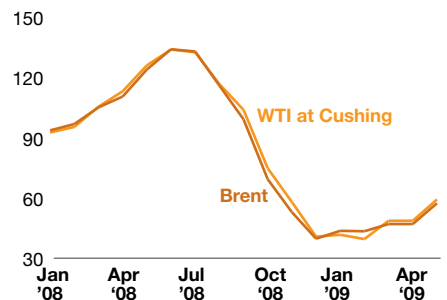
Most companies have also focused on increasing energy efficiency in order to reduce overall costs and risk relating to changes in the price of energy (as well as carbon emissions) and many continued with these type of investments in 2008. As a whole, the industry has achieved substantial gains in efficiency in recent years, as witnessed by the fact that production volumes have grown at a faster pace than electricity consumption.

## Transportation and chemicals

The industry transports many of its inputs as well as shipments of all of its production. Oil prices play a crucial role in the industry's transportation costs, and higher oil prices in the first half of the year eroded industry profits, despite rising product prices in some sectors. Chemical prices also tend to track the energy and crude oil price curves, and these rose sharply during the first half of 2008 as well.

The pressure in both of these areas eased as the year drew to a close. Oil prices declined sharply in the last quarter of the year — according to the World Bank, crude oil prices dropped to \$41/bbl in December 2008, down about 70% from July peaks of near \$146/bbl. Coming into Q2 2009, oil prices had started to rise again, with prices approaching \$70/bbl at the end of May.

Figure 6: Monthly Spot Crude Oil Prices (US \$ per barrel)



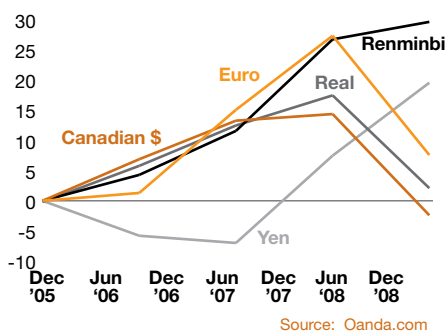
Source: US Energy Information Administration, accessed at <http://www.eia.doe.gov/emeu/International/Crude1.xls>

## Foreign exchange

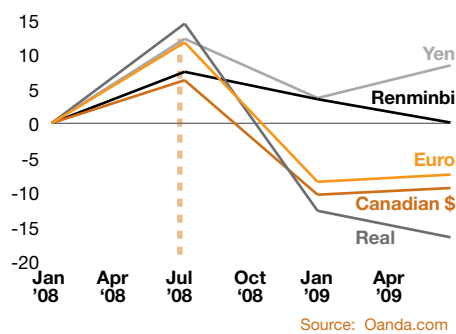
The majority of forest and paper product sales are denominated in US dollars and significant fluctuations in the US exchange rate can therefore have a profound impact on results. Volatility characterized currency markets throughout the year. In the first half of 2008, the US dollar dropped 12% against the Euro, 14% against the Brazilian Real, 12% against the Japanese Yen, 6% against the Canadian dollar, and 7% against the Chinese Renminbi. During the second half of the year the trend reversed and the US dollar rose against the other currencies, the Renminbi and Yen excepted.

Year over year the dollar dropped 7% against the Euro, 12% against the Japanese Yen, 7% against the Brazilian Real, and 8% against the Chinese Renminbi. While the US dollar depreciated, the Euro continued to appreciate against other currencies, leaving European producers with reduced export margins. For most of the year Canadian companies were adversely impacted by the Canadian dollar being close to parity with the US dollar, although depreciation of the US dollar in the last quarter provided some relief. Latin American companies were also strongly impacted, with a weaker dollar in the first half of the year putting pressure on exports, although currencies such as the Brazilian Real did fall again towards year-end.

**Figure 7: Appreciation of Major Currencies Against the US Dollar (Percent)**



**Figure 8: Monthly Fluctuation in Foreign Exchange Against the US Dollar (Percent)**



# PwC Top 100

## Highlights

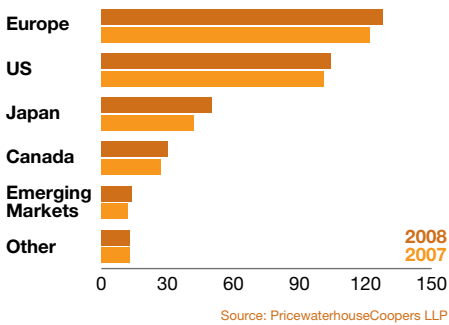
### Sales and net income

The total sales of the PwC Top 100 were \$357 billion in 2008, up from \$333 billion in 2007, however the increase was mainly due to the appreciation of the Euro against the US dollar. The 20 largest companies accounted for nearly 58% of total sales, consistent with 2007. Operating income of \$21 billion represented a decrease of 19% compared to prior year results. Net income tumbled from positive \$14 billion to record losses of \$8 billion in 2008, the first net loss recorded since we began tracking the net income of the PwC Top 100 in 1996. This sharp decline is mainly

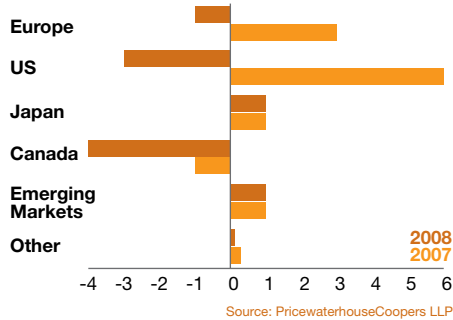
due to the impact of losses realised by major players in many of the mature markets (North America, Western Europe) as a result of low demand, goodwill and fixed asset impairments, restructuring, severance and high operating costs.

Despite the huge drop in net income, cash flow from operations only dropped 16%, to \$26 billion in 2008 from \$31 billion in 2007. The reduction in cash flow essentially mirrors the drop in operating income as companies focus on conserving cash. Much of the impact on the companies' bottom lines was a result of non-cash or long-term items.

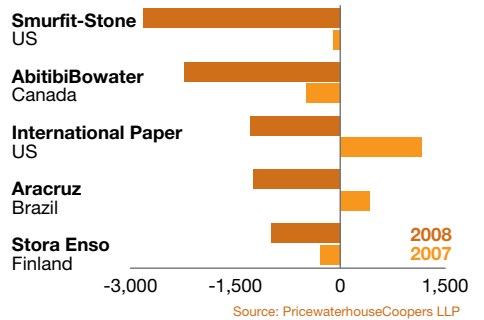
**Figure 9: Sales**  
(US \$ billions)



**Figure 10: Net Income (Loss)**  
(US \$ billions)



**Figure 11: Largest Losses**  
(US \$ millions)

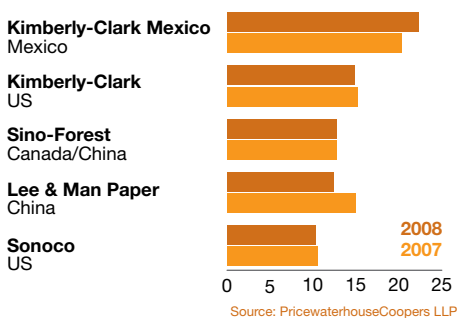


## Return on capital employed (ROCE)

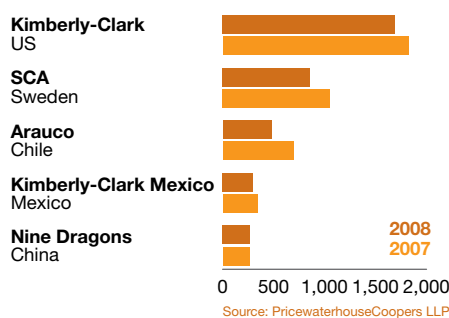
The average ROCE of the PwC Top 100 dropped from 4.9% in 2007 to 2.4% in 2008. Only six companies earned a return of more than 10% in 2008, compared to 14 in 2007.

Six companies (three in Latin America and three in China) made our list of ROCE leaders, achieving ROCE of greater than 10%. In 2008, only two companies from China generated a ROCE of greater than 10% compared with three companies in 2007, reflecting the widespread impact of the global slowdown. In 2007 emerging market producers were among the leaders in ROCE. Emerging Asia ROCE for 2008 remained flat at 7.2% (2007: 7.7%). Chinese companies' ROCE at 8.1% showed resilience compared to Latin American producers. The ROCE for Latin America dwindled to 3.0% from 9.0% in 2007.

**Figure 12: Highest ROCE**  
(Percent)



**Figure 13: Highest Earnings**  
(US \$ millions)



### INTERNATIONAL FINANCIAL REPORTING STANDARDS

More than 100 countries have adopted the use of International Financial Reporting Standards (IFRS) for public companies. Thirty one companies from the PwC Top 100 list reported their financial results under IFRS. Of these, 28 companies were from Europe, 2 from South Africa, with the remaining company from Australia.

European FPP companies completed their IFRS transition in 2005 and all European reporting companies are required to apply these accounting standards. Their IFRS migration revealed interpretation and application problems unique to the FPP sector, in particular: accounting for timber harvesting licenses and standing timber assets, impairment of long lived assets, and asset retirement obligations.

None of the Canadian, US, Emerging Asia or Latin American companies on the PwC Top 100 list has early adopted IFRS. By 2011 we anticipate that over 50% of the PwC Top 100 list will report under IFRS, boosted by mandatory switches to IFRS in Canada, Chile, and Brazil in 2009–2011.

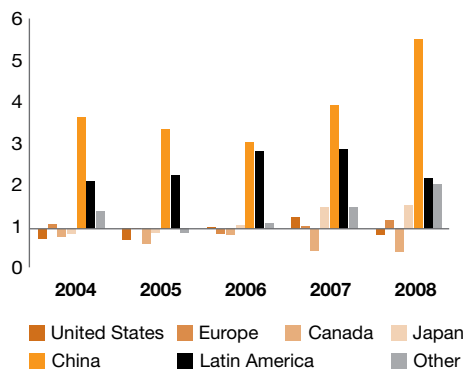
### Reinvestment ratio

Reinvestment ratio, calculated as capital investment as a percentage of depreciation, measures the extent that capital investment is replacing ageing assets. In broad terms, when the ratio exceeds 1.0, it indicates an expansion of capacity. A ratio less than 1.0 indicates capacity shrinkage. The reinvestment ratio of less than 1.0 illustrates a situation of chronic overcapacity in the global FPP industry.

The overall reinvestment ratio of the PwC Top 100 remained relatively unchanged in 2008, at an average of 1.19 compared to 1.24 in 2007. China, with a reinvestment ratio of 5.5 in 2008, was the only region with an increase in its reinvestment ratio from 3.9 in 2007. Latin America experienced a 30% drop in its ratio from 2007, after significant expansion in recent years. At the other extreme, the reinvestment ratio in Canada and the US dropped to 0.37 and 0.8 from only 0.4 and 1.2 in 2007, respectively.

As the global economy went into reverse in the last quarter of 2008, there was a string of announced cancellations or deferments of major greenfield projects ranging from new pulp facilities in Brazil to paper machines in China. Some of these actions reflected tighter credit availability; others the fact that existing and committed capacity will likely satisfy revised demand levels. Many investment plans, notably in China, are subsequently being revisited due to easing of credit conditions in early 2009.

Figure 14: Reinvestment Ratio





# PwC Top 100

**Table 2: Top 100 Global Forest, Paper & Packaging Industry Companies**

(US \$ millions)

Rank '08	Rank '07	Company Name <sup>1</sup>	Country <sup>4</sup>	Sales		Net Income (Loss)		ROCE <sup>2</sup>	
				2008 \$	2007 \$	2008 \$	2007 \$	2008 %	2007 %
1	1	International Paper	US	24,829	21,890	(1,282)	1,168	1.5	5.7
2	3	Kimberly-Clark	US	19,415	18,266	1,690	1,823	14.8	15.2
3	4	Svenska Cellulosa (SCA)	Sweden	16,965	15,675	857	1,056	5.8	5.7
4	2	Stora Enso	Finland	16,227	16,232	(991)	(294)	1.2	4.2
5	6	UPM-Kymmene	Finland	13,920	13,748	(263)	111	2.0	3.5
6	7	Oji Paper	Japan	12,788	10,758	114	146	1.6	2.3
7	9	Nippon Unipac	Japan	11,753	9,990	55	195	1.2	2.1
8	10	Smurfit Kappa	Ireland	10,390	9,962	(73)	202	6.7	8.0
9	8	Metsaliitto	Finland	9,466	9,312	(313)	(12)	-1.4	1.3
10	11	Mondi Group <sup>4</sup>	UK/South Africa	9,335	8,589	(310)	319	3.7	5.6
11	16	Sequana Capital	France	7,284	5,585	(630)	195	-3.0	4.6
12	12	Smurfit-Stone <sup>9</sup>	US	7,042	7,420	(2,818)	(103)	-16.2	2.0
13	23	AbitibiBowater <sup>8</sup>	Canada	6,771	3,876	(2,234)	(490)	-9.8	-4.0
14	13	MeadWestvaco <sup>3</sup>	US	6,637	6,407	90	285	2.8	4.8
15	5	Weyerhaeuser <sup>3,5</sup>	US	6,610	8,465	181	586	2.8	0.5
16	15	Domtar	Canada	6,394	5,947	(573)	70	0.0	4.5
17	14	PaperlinX	Australia	6,387	6,551	62	67	3.0	5.0
18	18	Sappi	South Africa	5,863	5,304	102	202	6.1	6.1
19	19	Norske Skog	Norway	4,762	4,637	(488)	(106)	-2.9	7.1
20	27	Daio Paper	Japan	4,421	3,520	47	90	1.9	3.2
21	20	Sumitomo Forestry	Japan	4,374	4,257	28	45	1.8	2.2
22	45	NewPage Corporation	US	4,356	2,168	(142)	(22)	1.8	3.1
23	28	Rengo	Japan	4,353	3,500	56	80	1.9	2.5
24	21	Sonoco	US	4,122	4,040	165	214	10.3	10.5
25	40	Graphic Packaging	US	4,079	2,421	(100)	(75)	1.2	3.1
26	22	Temple-Inland	US	3,884	3,926	(8)	1,305	0.9	0.7
27	24	Cascades	Canada	3,792	3,674	(52)	89	0.9	4.6
28	25	Arauco	Chile	3,689	3,576	479	696	6.8	10.3
29	26	DS Smith	UK	3,650	3,534	142	121	10.0	6.8
30	29	Burgo	Italy	3,567	3,263	(130)	18	-1.5	1.3
31	37	Unicharm	Japan	3,268	2,566	162	128	9.7	8.8
32	31	West Fraser Timber	Canada	3,010	3,100	(129)	(34)	-3.8	-0.4
33	17	Boise Cascade	US	2,978	5,413	(288)	128	-8.8	8.2
34	33	Holmen	Sweden	2,970	2,836	99	223	4.1	9.9
35	30	CMPC	Chile	2,945	3,227	203	502	3.4	8.3
36	44	Rock-Tenn	US	2,839	2,316	82	82	7.4	7.8
37	41	Ahlstrom	Finland	2,651	2,412	(26)	1	1.2	1.3
38	34	Sonae Industria	Portugal	2,603	2,830	(159)	108	-1.6	8.6
39	35	Sodra	Sweden	2,586	2,634	79	202	4.5	9.8
40	39	Pfleiderer	Germany	2,554	2,468	9	79	4.1	8.2
41	42	Mayr-Melnhof Karton	Austria	2,547	2,380	139	157	7.8	8.6
42	47	Mitsubishi Paper	Japan	2,508	2,076	35	62	2.5	1.8
43	32	Canfor	Canada	2,466	3,063	(326)	(337)	-6.9	-3.0
44	43	Packaging Corp of America	US	2,361	2,316	136	170	9.1	10.4
45	46	The Lecta Group	France	2,354	2,082	(119)	(41)	1.9	2.4
46	53	Suzano	Brazil	2,264	1,759	(251)	277	-0.9	6.1
47	36	Tembec	Canada	2,243	2,571	(142)	(46)	-7.2	-0.1
48	48	Shandong Chenming	China	2,239	2,002	155	128	7.8	6.3
49	38	Universal Forest Products	US	2,232	2,513	4	21	2.4	4.9
50	49	Myllykoski	Finland	2,164	1,980	(31)	5	1.1	1.6



Rank '08	Rank '07	Company Name <sup>1</sup>	Country <sup>4</sup>	Sales		Net Income (Loss)		ROCE <sup>2</sup>	
				2008 \$	2007 \$	2008 \$	2007 \$	2008 %	2007 %
51	50	Kimberly-Clark Mexico	Mexico	2,091	1,976	300	343	22.3	20.3
52	65	Nine Dragons Paper	China	2,035	1,298	271	264	7.7	13.0
53	51	Aracruz	Brazil	1,911	1,884	(1,239)	422	4.6	9.5
54	56	Verso Paper Holdings	US	1,767	1,629	(63)	(111)	2.6	-0.5
55	57	Catalyst	Canada	1,746	1,603	(209)	(30)	-2.1	2.5
56	59	Klabin	Brazil	1,725	1,443	(194)	321	2.7	9.2
57	63	Hokuetsu Paper	Japan	1,675	1,351	40	38	2.0	2.8
58	58	Portucel	Portugal	1,665	1,572	193	211	7.3	10.2
59	60	Daiken	Japan	1,616	1,431	8	(37)	1.4	-0.5
60	61	Siam Pulp & Paper	Thailand	1,442	1,404	51	75	5.3	8.0
61	67	Tomoku	Japan	1,417	1,263	13	6	2.1	2.2
62	62	Yuen Foong Yu Paper <sup>3</sup>	Taiwan	1,381	1,266	(11)	34	-0.3	2.1
63	54	Louisiana-Pacific	US	1,376	1,705	(579)	(180)	-10.8	-2.9
64	-	Moelven <sup>7</sup>	Norway	1,369	1,348	15	118	5.3	28.4
65	64	Votorantim Celulose (VCP)	Brazil	1,366	1,333	(404)	1,221	-3.9	10.9
66	70	P H Glatfelter	US	1,273	1,157	58	63	5.8	2.6
67	-	Clearwater Paper <sup>7</sup>	US	1,256	1,183	10	25	3.2	6.2
68	52	Hansol Paper <sup>3</sup>	Korea	1,243	1,209	3	(10)	2.9	1.2
69	69	Rayonier <sup>3</sup>	US	1,232	1,172	79	177	5.8	11.6
70	71	Billerud	Sweden	1,197	1,148	23	50	4.4	5.5
71	68	Wausau-Mosinee Paper	US	1,192	1,240	(16)	(2)	0.2	1.4
72	72	Kinnevik (Korsnas) <sup>10</sup>	Sweden	1,186	1,136	256	94	4.5	1.6
73	66	Plum Creek Timber Co. <sup>5</sup>	US	1,182	1,273	5	52	2.0	3.8
74	95	Lee & Man Paper	China	1,155	660	185	129	12.4	15.0
75	75	Sveaskog	Sweden	1,112	1,075	216	210	3.1	3.3
76	80	Chuetsu Pulp & Paper	Japan	1,099	960	12	(15)	1.7	0.1
77	76	Cheng Loong	Taiwan	1,087	1,028	3	19	2.0	3.6
78	78	Mercer International <sup>3</sup>	Canada	1,060	996	(107)	30	-3.8	5.7
79	77	Masisa SA	Chile	1,054	966	44	41	4.8	2.5
80	73	Nampak <sup>6</sup>	South Africa	1,041	1,117	(30)	39	3.1	5.4
81	83	ENCE	Spain	994	873	7	74	3.5	6.5
82	79	Appleton Papers	US	965	963	(97)	(6)	-2.1	3.4
83	74	Norbord	Canada	943	1,104	(116)	(45)	-5.9	-1.4
84	92	Sino-Forest	Canada/China	901	714	229	152	12.7	12.8
85	84	Groupe Gascogne	France	896	867	2	17	1.2	2.3
86	87	Shandong Huatai Paper	China	866	796	53	66	7.1	8.6
87	89	Heinzel Holding	Austria	851	760	52	48	9.9	9.2
88	94	Shan Dong Sun Paper	China	836	671	33	50	8.3	9.2
89	88	Buckeye Technologies	US	826	769	47	30	7.8	6.5
90	85	Carastar Industries	US	820	854	(99)	(25)	-3.3	0.2
91	93	The Pack	Japan	816	710	27	26	9.2	11.0
92	-	Exacompta Clairefontaine <sup>7</sup>	France	804	737	8	20	1.5	3.0
93	86	Western Forest Products	Canada	769	833	(81)	(52)	-10.4	-6.1
94	81	Grupo Industrial Durango	Mexico	769	766	(209)	(44)	-6.9	1.4
95	90	Schweitzer-Mauduit	US	768	715	1	3	3.9	5.5
96	82	Setra Group	Sweden	750	897	(48)	78	-7.3	25.2
97	96	Corticeira Amorim	Portugal	689	622	9	32	3.5	5.4
98	91	Fraser Papers <sup>8</sup>	Canada	689	715	(72)	(44)	-16.1	-11.9
99	-	Reno De Medici <sup>7</sup>	Italy	669	469	(9)	1	-2.4	3.0
100	99	Ballarpur Industries	India	654	556	69	61	8.6	8.3
				357,134	333,254	(7,968)	13,835	2.4	4.9

Source: PricewaterhouseCoopers LLP

#### Notes

- All Companies have December 31, 2008 year ends except those listed below:  
March 31, 2008: All Japanese Companies  
April 30, 2008: DS Smith  
June 30, 2008: Buckeye Technologies, PaperlinX, Nine Dragons Paper, Ballarpur Industries, Lee & Man.  
September 30, 2008: Rock-Tenn, Sappi, Tembec
- Return on Capital Employed 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.
- 2007 Sales have been restated.
- Country's head office is used for grouping (i.e. Mondi has dual listings and head offices in the UK and South Africa and Sino-Forest head office is in Canada, while all its operations are based in China).
- Weyerhaeuser and Plum Creek results exclude their real estate divisions.
- Results are reported for identifiable forest segments only. Estimates have been made to allocate paper company-wide expenses as required.
- New additions this year.
- AbitibiBowater is under creditor protection proceedings as of April 16, 2009. Fraser Papers is seeking bankruptcy protection in Canada and USA as of June 18, 2009.
- Smurfit Stone filed for Chapter 11 on January 26, 2009.
- Excluding \$4.2 million loss from change in fair value of financial assets in holding companies.

# Results by country/region

## Europe

### Economic and market overview

Overall, the Euro area had moderate GDP growth of 2% in 2008; however growth was mainly in the first half of the year. During the last quarter of 2008 the Euro area was fully feeling the impact of the economic downturn and the freeze in the financial markets, with GDP in Euro area countries actually decreasing as much as 0.7%. Forecasts suggest continued weakness in 2009, with a possible subdued recovery in 2010, but are marked by extreme uncertainty.

The big story in Europe in 2008 was cuts in production and capacity nearly across the board. Temporary and permanent reductions in production capacity have improved the supply and demand balance in the paper industry, especially in newsprint, magazine and coated fine papers. The main producers have sought to retain discipline on the supply side with aggressive curtailments or closures of capacity, with indications that they will remain on this strategy in 2009. While these actions are aimed at retaining the industry on a more stable footing, once demand recovers, they are a drag on operating profits. For example, in early 2009 Stora Enso announced a €870 million impairment

**Table 3: Top European Forest, Paper & Packaging Companies**  
(US \$/€ millions)

Company Name	Country	Sales		Net Income (Loss)		ROCE		Sales		Net Income (Loss)	
		2008	2007	2008	2007	2008	2007	2008	2007	2008	2007
		\$	\$	\$	\$	%	%	€	€	€	€
Svenska Cellulosa (SCA)	Sweden	16,965	15,675	857	1,056	5.8	5.7	11,531	11,442	582	771
Stora Enso	Finland	16,227	16,232	(991)	(294)	1.2	4.2	11,029	11,848	(673)	(215)
UPM-Kymmene	Finland	13,920	13,748	(263)	111	2.0	3.5	9,461	10,035	(179)	81
Smurfit Kappa	Ireland	10,390	9,962	(73)	202	6.7	8.0	7,062	7,272	(50)	147
Metsaliitto	Finland	9,466	9,312	(313)	(12)	-1.4	1.3	6,434	6,797	(213)	(9)
Mondi Group	UK/South Africa	9,335	8,589	(310)	319	3.7	5.6	6,345	6,269	(211)	233
Sequana Capital	France	7,284	5,585	(630)	195	-3.0	4.6	4,951	4,077	(428)	142
Norske Skog	Norway	4,762	4,637	(488)	(106)	-2.9	7.1	3,236	3,385	(332)	(77)
DS Smith	UK	3,650	3,534	142	121	10.0	6.8	2,481	2,580	97	89
Burgo	Italy	3,567	3,263	(130)	18	-1.5	1.3	2,424	2,382	(89)	13
Holmen	Sweden	2,970	2,836	99	223	4.1	9.9	2,018	2,070	67	163
Ahlstrom	Finland	2,651	2,412	(26)	1	1.2	1.3	1,802	1,761	(18)	1
Sonae Industria	Portugal	2,603	2,830	(159)	108	-1.6	8.6	1,769	2,066	(108)	79
Sodra	Sweden	2,586	2,634	79	202	4.5	9.8	1,757	1,922	54	147
Pfleiderer	Germany	2,554	2,468	9	79	4.1	8.2	1,736	1,801	6	58
Mayr-Melnhof Karton	Austria	2,547	2,380	139	157	7.8	8.6	1,731	1,737	95	115
The Lecta Group	France	2,354	2,082	(119)	(41)	1.9	2.4	1,600	1,520	(81)	(30)
Myllykoski	Finland	2,164	1,980	(31)	5	1.1	1.6	1,471	1,445	(21)	4
Portucel	Portugal	1,665	1,572	193	211	7.3	10.2	1,132	1,147	131	154
Moelven	Norway	1,369	1,348	15	118	5.3	28.4	931	984	10	86
Billerud	Sweden	1,197	1,148	23	50	4.4	5.5	813	838	16	36
Kinnevik (Korsnas)	Sweden	1,186	1,136	256	94	4.5	1.6	806	829	174	69
Sveaskog	Sweden	1,112	1,075	216	210	3.1	3.3	756	785	147	153
ENCE	Spain	994	873	7	74	3.5	6.5	676	637	5	54
Groupe Gascogne	France	896	867	2	17	1.2	2.3	609	633	1	12
Heinzel Holding	Austria	851	760	52	48	9.9	9.2	578	555	35	35
Exacompta Clairefontaine	France	804	737	8	20	1.5	3.0	547	538	5	14
Setra Group	Sweden	750	897	(48)	78	-7.3	25.2	509	655	(33)	57
Corticeira Amorim	Portugal	689	622	9	32	3.5	5.4	468	454	6	23
Reno De Medici	Italy	669	469	(9)	1	-2.4	3.0	455	343	(6)	1
		128,177	121,663	(1,484)	3,297	2.9	5.0	87,118	88,807	(1,011)	2,406

Source: PricewaterhouseCoopers LLP

charge, also outlining how it had moved to cut production by 15% to 30% according to segment and reduce planned capital expenditure by 25 to 30%.

While most of the European companies in the PwC Top 100 have portfolios which are dominated by pulp, paper and packaging businesses, for those in wood products, 2008 was nearly universally as grim as oversupply in the face of falling construction demand caused prices to fall. Despite massive efforts to reduce capacity, it will take some time to establish a stable supply and demand balance in the European market.

Far-reaching consolidation failed to materialise in Europe in 2008. Overall deal volume declined 10% from 2007 to 2008. The biggest 2008 deal was Finland's M-real's \$1 billion sale of its coated graphic paper business to South Africa's Sappi. Another significant deal was the Stora Enso sale of its wholly owned paper and packaging merchant, Papyrus, to the Swedish private equity company Altor Partners for \$974 million in April 2008. Increasing financial distress is likely to drive more activity across the sector in the face of grim market conditions.

### **Financial performance**

Sales by the 30 European-based companies included in the PwC Top 100 amounted to \$128 billion, up 5.1% from the \$122 billion reported for 2007. However, when reported in Euros, 2008 sales actually decreased by 1.9% to €87 billion from €89 billion, due to the 7% depreciation of the US dollar against the Euro in 2008. European companies' sales were higher than US companies for the second year in a row.

Net losses amounted to \$1.5 billion, reversing the net income of \$3.3 billion reported in 2007. Fourteen European companies posted net losses in 2008, compared to only four during 2007. The sharp decrease in net income is attributed to both market conditions and asset impairments; in some cases there were also significant foreign exchange losses.

Sequana Capital (fine and specialty paper production and paper merchandising) showed the steepest decline, moving from \$195 million in net income in 2007 to a net loss of \$630 million in 2008. Stora Enso (paper, packaging and wood products) was next at \$991 million in net losses, down \$697 million from the \$294 million in net losses reported in 2007. Sequana's losses were mainly due to discontinued operations, impairment and restructuring charges which amounted to €500 million, while Stora Enso's losses from restructuring and impairments amounted to €1 billion.

SCA (tissue and personal care, packaging, graphic papers and wood products) was the most profitable European company in 2008 with net income of \$857 million (2007: \$1.1 billion). Similar to Kimberly-Clark in North America, SCA's net income benefited from its strong exposure to the less-cyclical hygiene segment.

ROCE was 2.9% in 2008, down from 5.0% in 2007. DS Smith (mainly packaging) and Heinzl Group (mainly pulp) earned the highest ROCE in Europe at 10% and 9.9% respectively. Results for DS Smith are based on a company year-end of April 30, 2008, so do not reflect the impact of global downturn later in the year. Heinzl Group benefited from the favorable pulp markets until the third quarter, as well as gains on exchange derivative values.

Three European companies entered or rejoined the PwC Top 100 in 2008: Reno de Medici (Italy), Exacompta Clairfontaine (France) and Moelven (Norway).

## United States

### Economic and market overview

US GDP growth slowed from 2.1% in 2007 to 1.1% in 2008, with a significant decrease in the last half of the year. The fourth quarter experienced contraction at an annualised rate of 6.3%. In addition to slow domestic growth, the global economic downturn caused US producers to face a marked drop in demand from emerging markets, and a corresponding decline in exports.

Many companies are faced with reduced leverage, smaller balance sheets and reduced growth potential. As already noted, US companies debt to equity ratio exploded in 2008, nearly doubling to reach a balance sheet gearing level of 210%. The housing market remains bleak, despite an initial upturn at the beginning of 2008. The year ended with housing starts at the lowest level seen in decades. Forecasts suggest no immediate improvement.

As in Europe, many US companies reduced or shifted capacity. The AF&PA reported an overall capacity reduction of 0.8% for the year, and that paper and paperboard capacity has contracted 7.3% since its 2000 peak.

The volume of North American FPP deal-making rose in 2008 but, with the notable exception of International Paper's \$6 billion acquisition of Weyerhaeuser's packaging assets, the vast majority of deal-making was focused on smaller transactions than in the immediately preceding years. Thus, while deal volume was up 15%, total value declined by 32%, from

\$17 billion in 2007 to \$12 billion in 2008. The decline is even greater given that the International Paper/Weyerhaeuser deal accounted for half the total dollar deal value. In terms of trends, timberland asset values remained relatively strong, and further consolidation was seen in the packaging sector.

The tough times faced by the industry were reflected by Smurfit-Stone's decision to file for bankruptcy protection in January 2009.

In recent months, the industry has focused quite intently upon a provision of the US tax laws that provide tax refunds and credits for alternative energy. Some paper manufacturers who use a bio-fuel known as black liquor are eligible for the credits and some estimates suggest the industry could receive as much as \$6 billion in tax credits from the US government by the end of 2009, and many papermakers have already collected millions of dollars in the first few months of 2009. Hawkins Wright estimates the impact of the credit to be in the range of \$125–\$150 per tonne, so it could have a major impact on the relative competitiveness of producers based or operating in the US in the short-term before the credit sunsets at the end of the 2009.

### Financial performance

The 24 US-based companies in the PwC Top 100 reported aggregated sales of \$104 billion. Collectively they represent 29% of the total sales of the PwC Top 100. This compares with \$100 billion or 30% of total sales in 2007. Overall sales revenues increased by a modest 3.8% compared to last year.

Net income for the 24 US companies decreased sharply from \$5.6 billion positive in 2007 to \$2.9 billion in net losses in 2008. Eleven out of the 24 companies reported net losses totalling \$5.5 billion in 2008 compared with eight companies in 2007 reporting \$0.5 billion in net losses. US companies with positive results saw a decline in their net income, with the exception of Buckeye Technologies (\$17 million increase, cellulose-based products) and Rock-Tenn (results unchanged from 2007, packaging). The net losses line was dominated by Smurfit-Stone's \$2.8 billion loss due primarily to goodwill and other intangible asset impairment charges of \$2.7 billion, and International Paper's \$1.3 billion net losses, which include \$1.8 billion of goodwill impairment charges and \$179 million of restructuring and other charges.

ROCE amounted to 2.9% in 2008, down from 5.2% in 2007. Kimberly-Clark at 14.8% (2007: 15.2%) and Sonoco at 10.3% (2007: 10.5%) were the only two companies that earned a ROCE greater than 10%.

Missing from the list is Potlatch, now replaced by its spin-off Clearwater Paper.

**Table 4: Top US Forest, Paper & Packaging Companies**  
(US \$ millions)

Company Name	Sales		Net Income (Loss)		ROCE	
	2008	2007	2008	2007	2008	2007
	\$	\$	\$	\$	%	%
International Paper	24,829	21,890	(1,282)	1,168	1.5	5.7
Kimberly-Clark	19,415	18,266	1,690	1,823	14.8	15.2
Smurfit-Stone	7,042	7,420	(2,818)	(103)	-16.2	2.0
MeadWestvaco	6,637	6,407	90	285	2.8	4.8
Weyerhaeuser	6,610	8,465	181	586	2.8	0.5
NewPage Corporation	4,356	2,168	(142)	(22)	1.8	3.1
Sonoco	4,122	4,040	165	214	10.3	10.5
Graphic Packaging	4,079	2,421	(100)	(75)	1.2	3.1
Temple-Inland	3,884	3,926	(8)	1,305	0.9	0.7
Boise Cascade	2,978	5,413	(288)	128	-8.8	8.2
Rock-Tenn	2,839	2,316	82	82	7.4	7.8
Packaging Corp of America	2,361	2,316	136	170	9.1	10.4
Universal Forest Products	2,232	2,513	4	21	2.4	4.9
Verso Paper Holdings	1,767	1,629	(63)	(111)	2.6	-0.5
Louisiana-Pacific	1,376	1,705	(579)	(180)	-10.8	-2.9
P H Glatfelter	1,273	1,157	58	63	5.8	2.6
Clearwater Paper	1,256	1,183	10	25	3.2	6.2
Rayonier	1,232	1,172	79	177	5.8	11.6
Wausau-Mosinee Paper	1,192	1,240	(16)	(2)	0.2	1.4
Plum Creek Timber Co.	1,182	1,273	5	52	2.0	3.8
Appleton Papers	965	963	(97)	(6)	-2.1	3.4
Buckeye Technologies	826	769	47	30	7.8	6.5
Caraustar Industries	820	854	(99)	(25)	-3.3	0.2
Schweitzer-Mauduit	768	715	1	3	3.9	5.5
	<b>104,041</b>	<b>100,221</b>	<b>(2,944)</b>	<b>5,608</b>	<b>2.9</b>	<b>5.2</b>

Source: PricewaterhouseCoopers LLP

## Japan

### Economic and market overview

Japan's GDP growth declined from 2.4% in 2007 to -0.6% in 2008. Japan's economy was one of the hardest hit by the global decline – in the fourth quarter of 2008 it contracted at a rate of 12.1%, the country's worst economic performance in 35 years. The severe impact on Japan can be traced to falling demand and the sharp appreciation of the Yen by 25% in Q4. In 2008 Japan experienced the sharpest export decline in the country's post-war history. Forecasts suggest that a turn-around is not imminent, but as in other markets, the outlook is uncertain.

Japanese companies expect to focus on other markets in Asia and Oceania as a way to cope with the domestic malaise. Nippon Paper announced the purchase of Paper Australia, a subsidiary of PaperlinX, in February 2009. Company press releases report Nippon's view that Australia offers a promising paper market, given that the Japanese domestic market is near saturation.

### Financial performance

Japanese FPP companies all have their fiscal years ending on March 31. Their financial data included in this Survey are for the 12 months ended March 31, 2008. Consequently, the results included in the Survey are not reflective of the calendar year 2008, especially the deterioration of the economy starting September 2008.

Sales for the 12 Japanese companies for the 12 months ended March 31, 2008 rose by 18.2%, however net income for the year decreased to \$597 million from \$764 million in 2007. The increase in sales was mainly due to the appreciation of the Yen against the dollar during the first quarter of 2008. When reported in Yen, sales increased slightly to ¥5,150 billion from ¥4,987 billion in 2007, and net income decreased by 32% from ¥90 billion in March 31, 2007 to ¥61 billion in 2008. The average ROCE decreased to 2.1% in 2008 from 2.5% in 2007.

The slowdown in global economic activity has also impacted the Japanese companies' performance for the fiscal year ended March 31, 2009. Preliminary announcements indicate that sales for the 12 companies remained flat at \$50 billion while net income dropped markedly from \$597 million to close to \$50 million.

**Table 5: Top Japanese Forest, Paper & Packaging Companies**  
(US \$ millions)

Company Name	Sales		Net Income (Loss)		ROCE	
	2008	2007	2008	2007	2008	2007
	\$	\$	\$	\$	%	%
Oji Paper	12,788	10,758	114	146	1.6	2.3
Nippon Unipac	11,753	9,990	55	195	1.2	2.1
Sumitomo Forestry	4,374	4,257	28	45	1.8	2.2
Daio Paper	4,421	3,520	47	90	1.9	3.2
Rengo	4,353	3,500	56	80	1.9	2.5
Unicharm	3,268	2,566	162	128	9.7	8.8
Mitsubishi Paper	2,508	2,076	35	62	2.5	1.8
Daiken	1,616	1,431	8	(37)	1.4	-0.5
Hokuetsu Paper	1,675	1,351	40	38	2.0	2.8
Tomoku	1,417	1,263	13	6	2.1	2.2
Chuetsu Pulp & Paper	1,099	960	12	(15)	1.7	0.1
The Pack	816	710	27	26	9.2	11.0
	50,088	42,382	597	764	2.1	2.5

Source: PricewaterhouseCoopers LLP

## Canada

### Economic and market overview

GDP growth declined from 2.7% in 2007 to a mere 0.5% in 2008. The Canadian economy contracted at an annualised rate of 3.4% in the fourth quarter, compared with a 6.3% annualised decline in the US economy during the same period.

While Canada's forest and paper industry realised improvements in product prices during the first half of the year, the onset of the global financial crisis and reduction in demand resulted in inventory increases and reductions in sales volumes for the last half of the year. Many companies recorded write downs and asset impairments, as companies looked to restructure and clean up their balance sheets.

A number of Canadian producers described the year as the worst downturn and most difficult in recent history.

### Financial performance

Canadian companies were hard hit by the global economic situation and reductions in prices and shipments, as is evident in reduced sales and participation in the PwC Top 100 in 2008. Only 11 Canadian companies made the PwC Top 100 in 2008, down from 13 in 2007. Interfor and Ainsworth's sales plummeted to \$413 million and \$339 million respectively, causing them to drop out of the PwC Top 100. Seven out of the 11 Canadian participants still included were ranked lower than in 2007.

The 11 companies accounted for 8.4% of PwC Top 100 sales. Their sales value of \$30 billion was 8.7% greater than the comparable value of the 11 in 2007, however much of the \$2.4 billion increase in sales is attributable to the inclusion of full year results for Abitibi, which merged with Bowater in October 2007. If the AbitibiBowater results are excluded, sales remained flat compared to prior year.

Net losses rose 355% to \$4.0 billion (2007: \$0.9 billion). All 11 Canadian companies reported a net loss in 2008, compared with eight out of 13 companies reporting losses in 2007. Net losses were deepened by a stronger Canadian dollar, goodwill and other asset impairment charges. AbitibiBowater reported the most significant decline in profitability, with a net loss of \$2.2 billion in 2008, compared with a 2007 net loss of \$0.49 billion. The company sought creditor protection proceedings in April 2009.

Overall ROCE decreased to -5.0% in 2008, down from 0.0% in 2007. Cascades (primarily packaging) was the only Canadian company in the PwC Top 100 to report a positive ROCE in 2008 at 0.9% (4.6% in the previous year), followed by Domtar (primarily fine paper) at 0.0% (4.5%). All other companies reported a negative ROCE.

Conditions remain very difficult in 2009.

**Table 6: Top Canadian Forest, Paper & Packaging Companies**

(US \$ millions)

Company Name	Sales		Net Income (Loss)		ROCE	
	2008	2007	2008	2007	2008	2007
	\$	\$	\$	\$	%	%
AbitibiBowater	6,771	3,876	(2,234)	(490)	-9.8	-4.0
Domtar	6,394	5,947	(573)	70	0.0	4.5
Cascades	3,792	3,674	(52)	89	0.9	4.6
West Fraser Timber	3,010	3,100	(129)	(34)	-3.8	-0.4
Canfor	2,466	3,063	(326)	(337)	-6.9	-3.0
Tembec	2,243	2,571	(142)	(46)	-7.2	-0.1
Catalyst	1,746	1,603	(209)	(30)	-2.1	2.5
Mercer International	1,060	996	(107)	30	-3.8	5.7
Norbord	943	1,104	(116)	(45)	-5.9	-1.4
Western Forest Products	769	833	(81)	(52)	-10.4	-6.1
Fraser Papers	689	715	(72)	(44)	-16.1	-11.9
	<b>29,883</b>	<b>27,482</b>	<b>(4,041)</b>	<b>(889)</b>	<b>-5.0</b>	<b>0.0</b>

Source: PricewaterhouseCoopers LLP

## Latin America

### Economic and market overview

Latin America's fortunes are strongly dependent upon those of its neighbours to the north, and not surprisingly the region's economies are also suffering from the impact of the global downturn. Those countries with the strongest trade ties to the US, such as Mexico, felt the impact most immediately. Tight financial conditions and weaker external demand have proved a drag on growth in the region. Mexico slid into a recession in 2008, while growth in Brazil decelerated.

Pulp markets closed 2008 in an oversupply situation despite market curtailments. Performance of Latin American companies is unlikely to show major improvement until pulp demand and prices pick up.

Capacity is set to increase in 2009, with output from VCP's new pulp mill in Tres Lagoas scheduled to reach the market by mid-year. In 2008 VCP began the process of acquiring control of Aracruz. The process was sidelined for several months due to Aracruz's exposure to currency derivatives, however in January 2009 VCP resumed the merger process, expanding their stake in two stages in Aracruz to 84% and with further steps to acquire the minority. This merger creates the world's largest producer of short-fibre pulp.

### Financial performance

The nine Latin American based companies on the PwC Top 100 list reported aggregate sales of \$18 billion, or 5.0% of total sales of the PwC Top 100. This compares with \$17 billion in 2007. The modest level of increase, in sharp contrast to strong growth in recent years, is largely due to the decline in pulp prices and production in the fourth quarter as a result of the worldwide downturn in demand for commodities. During most of 2008, Latin American producers were also negatively impacted by the relative strength of their currencies in relation to the US dollar.

Net losses amounted to \$1.3 billion in 2008, a sharp drop from the \$3.8 billion in net earnings achieved in 2007. Much of the drop can be attributed to Aracruz, which reported a charge of \$2.1 billion from exposure to foreign currency derivatives. Five companies reported net losses in 2008, while only Durango (Mexico) reported a loss in 2007. Again, currency fluctuations drove most of this change, as the appreciation of the Real and the sudden increase in input costs during the first half of 2008 put pressure on results reported in US dollars.

Latin American companies did not replicate the 2007 average ROCE of 9.0%; average ROCE dropped to 3.0% in 2008. Kimberly-Clark Mexico was the only exception, reporting the highest ROCE in 2008 at 22.3%, up from 2007's 20.3%. The company benefited from strong exposure to the tissue papers segment, where demand has been less severely impacted by the economic crisis. Arauco kept second place with 2008 ROCE at 6.8%, down from 11.9% in 2007. VCP's ROCE fell to -3.9% from 10.9% in 2007 mainly due to losses on foreign currency derivatives and an equity investment loss in Aracruz.

**Table 7: Top Latin American Forest, Paper & Packaging Companies**  
(US \$ millions)

Company Name	Country	Sales		Net Income (Loss)		ROCE	
		2008 \$	2007 \$	2008 \$	2007 \$	2008 %	2007 %
Arauco	Chile	3,689	3,576	479	696	6.8	10.3
CMPC	Chile	2,945	3,227	203	502	3.4	8.3
Suzano	Brazil	2,264	1,759	(251)	277	-0.9	6.1
Kimberly-Clark Mexico	Mexico	2,091	1,976	300	343	22.3	20.3
Aracruz	Brazil	1,911	1,884	(1,239)	422	4.6	9.5
Klabin	Brazil	1,725	1,443	(194)	321	2.7	9.2
Votorantim Celulose (VCP)	Brazil	1,366	1,333	(404)	1,221	-3.9	10.9
Masisa SA	Chile	1,054	966	44	41	4.8	2.5
Grupo Industrial Durango	Mexico	769	766	(209)	(44)	-6.9	1.4
		17,814	16,930	(1,271)	3,779	3.0	9.0

Source: PricewaterhouseCoopers LLP



## Emerging Asia

### Economic and market overview

Emerging Asia is strongly dependent on manufacturing exports, which have been suffering due to the global slowdown. While overall GDP growth in the region was around 8% for 2008, this represents a significant drop-off from 2007's strong performance. China's GDP growth slowed from 13% in 2007 to 9.0% in 2008; forecasts for 2009 vary, but most recent projections anticipate a further decline in growth rates for 2009.

In the second half of 2008 China experienced reduced profitability in the corporate sector. To compensate for expected continued drops in export demand, China is shifting its focus to serving domestic demand and rebalancing growth expectations towards domestic consumption and services.

China is also spear-heading regional efforts to head off the impact of the falloff in global investment and trade, through fiscal stimulus packages equivalent to 3.6% of regional GDP, by some estimates. China's stimulus package is the largest in the region at about 12% of 2009 GDP to be implemented through to the end of 2010.

**Table 8: Top Emerging Asia Forest, Paper & Packaging Companies**  
(US \$ millions)

Company Name	Country	Sales		Net Income (Loss)		ROCE	
		2008 \$	2007 \$	2008 \$	2007 \$	2008 %	2007 %
Shandong Chenming	China	2,239	2,002	155	128	7.8	6.3
Nine Dragons Paper	China	2,035	1,298	271	264	7.7	13.0
Siam Pulp & Paper	Thailand	1,442	1,404	51	75	5.3	8.0
Yuen Foong Yu Paper	Taiwan	1,381	1,266	(11)	34	-0.3	2.1
Hansol Paper	Korea	1,243	1,209	3	(10)	2.9	1.2
Lee & Man Paper	China	1,155	660	185	129	12.4	15.0
Cheng Loong	Taiwan	1,087	1,028	3	19	2.0	3.6
Sino Forest	China	901	714	229	152	12.7	12.8
Shandong Huatai Paper	China	866	796	53	66	7.1	8.6
Shan Dong Sun Paper	China	836	671	33	50	8.3	9.2
Ballarpur Industries	India	654	556	69	61	8.6	8.3
		<b>13,840</b>	<b>11,604</b>	<b>1,041</b>	<b>968</b>	<b>7.2</b>	<b>7.7</b>

Source: PricewaterhouseCoopers LLP

China continued to face fibre deficits during 2008. If secondary fibre sources are excluded, China is only able to meet around half of its demand for virgin fibre from domestic sources. As already noted in our discussion of fibre supply, in the second half of 2008 Chinese demand for imported pulp did not always track domestic or global demand for paper. Analyst reports suggest that in addition to stockpiling in order to take advantage of lower pulp prices, some papermakers have been substituting imported pulp for lower quality domestic sources of wood and non-wood pulp, now that doing so has become cost-competitive.

In recent years China has been rapidly expanding paper producing capacity, but some construction projects, expansions and investments are being postponed in light of weakened demand growth expectations. One example is Shandong Chenming Paper Holding's decision to delay a pulp mill project.

India has also been driving growth in the region in recent years, with healthy rates of expansion, but is now seeing huge challenges. Major players in Indonesia and China who have been faced with sharply declining demand from North America and Europe may look to push large quantities of coated and uncoated wood-free grades of paper into the Indian market, which may put pressure on prices. Indian papermakers also need to contend with serious fibre shortages, and fragmented land holdings and concerns over land-use make efforts to increase pulp production more challenging.

### Financial performance

Companies in Emerging Asia increased their sales to \$14 billion in 2008, 19% higher than the \$12 billion in 2007. Net profits were \$1.04 billion in 2008 compared to \$0.97 billion in 2007. While the results for Emerging Asia initially appear to be significantly better than those of peers in other regions, it should be noted that Nine Dragons and Ballarpur both have June 30 fiscal year-ends, while Lee & Man's is March 31, 2008. Consequently, 2008 results for these companies do not reflect the adverse market conditions that occurred in the second half of 2008.

The performance of this group was dominated by the six Chinese companies. Sales by the Chinese based companies included in this group amounted to \$8.0 billion, up by 31% from the \$6.1 billion reported in 2007, and representing 58% of the total sales of the group. The increase in sales was led by Lee & Man Paper and Nine Dragons Paper (both mainly containerboard) posting increases of 75% and 57% respectively. As a result, Lee & Man moved to the 74th place on the PwC Top 100 list, up from 95th place,

and Nine Dragons moved up to 52nd place on the list, up from 65th.

Both Lee & Man and Nine Dragons have increased capacity, but due to market conditions, both companies have revised further expansion plans in response to the downturn in the global economy.

ROCE was 7.2% slightly down from 7.7% in 2007. Sino-Forest (mainly Chinese plantations investor and trader) had the highest ROCE in the region at 12.7% followed by Lee & Man at 12.4%. They were the only companies that achieved over 10% ROCE in 2008. Overall, ROCE of the six Chinese companies was 8.1% down from 10.4% in 2007. Shandong Chenming was the only Chinese company that recognised a modest growth in its ROCE at 7.8% (2007: 6.3%), in addition to Ballarpur (India) and Hansol (Korea) at 8.6% (2007: 8.3%), and 2.9% (2007: 1.2%) respectively. This improvement is mainly due to higher production and sales volumes. Production efficiency was improved by continued closures of old capacity and the benefit of new, more efficient capacity coming on stream.



## Russia

Due either to limited publicly available financial information or size there are no Russian companies in the PwC Top 100 list and their financial results are not addressed here.

Despite the limited scale of Russian companies, the country has had a major impact on global FPP developments. It possesses the world's largest forest resources and had assumed primacy in recent years as the world's largest exporter of unprocessed timber. As part of moves aimed at encouraging investment in value added processing in Russia, the government had introduced an escalating scale of export duties on unprocessed roundwood, with the largest increase due to take effect in January 2009.

In November 2008, the Russian government announced that the increases would be postponed by nine to twelve months. Companies in regions where Russian exports form a large component of fibre supply have been looking to reduce their dependence on Russian sources; shipments to China, Finland, and Japan, all major

buyers of Russian logs, declined substantially in 2008. Press reports indicate that rough timber exports overall decreased by 54%, although the global economic slowdown may also have been a factor here.

Finnish press reports in June 2009 quote Prime Minister Vladimir Putin as saying that Russia no longer plans to further raise duties on exported wood, but at the time of finalising this report, official confirmation from the Russian government was outstanding.

## Other regions

Our PwC Top 100 includes companies from some regions not addressed in detail in this analysis, notably Australia and South Africa. Sales for the one Australian (PaperlinX) and two South African companies (Sappi & Nampak) remained flat at \$13.3 billion, compared to \$12.9 billion in 2007. Net profit dropped notably for the two South African companies, declining from \$241 million in 2007 to \$72 million in 2008, primarily as a result of impairment and restructuring charges.

**Table 9: Financial Summary Information by Country/Region**  
(US \$ millions)

Company Name	Sales			Net Income (Loss)			ROCE		Cash Flow from Ops		Debt to Equity		Return on Sales		Return on Equity	
	2008	2007	Change	2008	2007	Change	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007
	\$	\$	%	\$	\$	%	%	%	\$	\$			%	%	%	%
<b>Europe</b>																
Finland	44,428	43,684	1.7	(1,624)	(189)	757.8	1.0	3.0	2,268	3,748	0.87	0.70	0.4	2.5	0.8	4.6
Sweden	26,766	25,401	5.4	1,482	1,913	-22.6	4.8	5.4	2,191	2,902	0.78	0.40	5.0	6.9	6.9	7.7
Other	56,983	52,578	8.4	(1,342)	1,573	-185.4	3.2	6.6	3,723	3,732	1.14	0.90	0.4	4.4	1.0	10.6
<b>Total Europe</b>	<b>128,177</b>	<b>121,663</b>	<b>5.4</b>	<b>(1,484)</b>	<b>3,297</b>	<b>-145.1</b>	<b>2.9</b>	<b>5.0</b>	<b>8,182</b>	<b>10,382</b>	<b>0.94</b>	<b>0.67</b>	<b>1.3</b>	<b>4.2</b>	<b>2.7</b>	<b>7.5</b>
<b>US</b>	<b>104,041</b>	<b>100,221</b>	<b>3.8</b>	<b>(2,944)</b>	<b>5,608</b>	<b>-152.5</b>	<b>2.9</b>	<b>5.2</b>	<b>6,950</b>	<b>9,838</b>	<b>2.10</b>	<b>1.20</b>	<b>0.8</b>	<b>3.7</b>	<b>2.8</b>	<b>9.7</b>
<b>Japan</b>	<b>50,088</b>	<b>42,382</b>	<b>18.2</b>	<b>597</b>	<b>764</b>	<b>-22.0</b>	<b>2.1</b>	<b>2.5</b>	<b>3,731</b>	<b>3,247</b>	<b>1.46</b>	<b>0.81</b>	<b>1.5</b>	<b>2.2</b>	<b>3.9</b>	<b>5.5</b>
<b>Canada</b>	<b>29,883</b>	<b>27,482</b>	<b>8.7</b>	<b>(4,041)</b>	<b>(889)</b>	<b>354.7</b>	<b>-5.0</b>	<b>0.0</b>	<b>502</b>	<b>537</b>	<b>1.90</b>	<b>1.15</b>	<b>-7.9</b>	<b>-2.4</b>	<b>-22.4</b>	<b>-5.1</b>
<b>Emerging Markets</b>																
Latin America	17,814	16,930	5.2	(1,271)	3,779	-133.7	3.0	9.0	4,525	4,467	0.94	0.61	3.7	18.2	3.1	14.3
Emerging Asia	13,840	11,604	19.3	1,041	968	7.0	7.2	7.7	2,026	1,482	0.97	0.68	7.4	8.2	11.0	12.7
<b>South Africa</b>	<b>6,904</b>	<b>6,421</b>	<b>7.5</b>	<b>72</b>	<b>241</b>	<b>-70.1</b>	<b>4.6</b>	<b>5.2</b>	<b>431</b>	<b>682</b>	<b>1.60</b>	<b>1.19</b>	<b>3.5</b>	<b>3.8</b>	<b>11.5</b>	<b>11.5</b>
<b>Australia</b>	<b>6,387</b>	<b>6,551</b>	<b>-2.5</b>	<b>62</b>	<b>67</b>	<b>-7.5</b>	<b>3.0</b>	<b>5.0</b>	<b>80</b>	<b>120</b>	<b>0.47</b>	<b>0.65</b>	<b>0.3</b>	<b>1.0</b>	<b>1.5</b>	<b>5.0</b>
	<b>357,134</b>	<b>333,254</b>	<b>7.2</b>	<b>(7,968)</b>	<b>13,835</b>	<b>-157.6</b>	<b>2.4</b>	<b>4.9</b>	<b>26,427</b>	<b>30,755</b>	<b>1.30</b>	<b>0.90</b>	<b>0.9</b>	<b>4.1</b>	<b>1.9</b>	<b>8.0</b>

Source: PricewaterhouseCoopers LLP

# 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. There are known to be several companies, mainly privately-owned entities, that are of sufficient size to warrant inclusion in the Top 100, but which 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 (Austria), Elopak (Norway), Papierfabrik Palm (Germany), Fedrigoni Group (Italy) and Ilim Pulp (Russia)

## Asia Pacific

Asia Pulp and Paper (APP) (Indonesia and China), APRIL (Singapore/Indonesia), Rank Group (New Zealand) and Visy Industries (Australia)

The PwC Top 100 results include only companies whose forest, paper and fibre packaging products business comprise more than 50% of total sales. Companies are grouped based on the location of their head offices. Financial results are for the companies' fiscal year ends. The 2008 Japanese data is for their fiscal year ended March 31, 2008. The 2007 comparative corporate data included in this Survey is sourced from the data reported in the companies' 2008 annual reports. PwC has made adjustments to reported figures as footnoted on the PwC Top 100. PwC takes no responsibility for the accuracy of the adjusted figures.

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. Cash flow from operations excludes changes in working capital.

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 2008 and 2007 average rates for the calendar years (irrespective of year ends within 2008). Balance sheet items have been translated at the rates as of December 31, 2008 and 2007 respectively.

**Table 10: Exchange Rates**

Currency Type	Year End	USD @Dec 31	USD Average	Euro @Dec 31	Euro Average
<b>Australian Dollar</b>	<b>2008</b>	<b>0.703</b>	<b>0.853</b>	<b>0.4900</b>	<b>0.5774</b>
Australian Dollar	2007	0.876	0.838	0.5950	0.6120
<b>Brazilian Real</b>	<b>2008</b>	<b>0.432</b>	<b>0.557</b>	<b>0.3030</b>	<b>0.3775</b>
Brazilian Real	2007	0.565	0.516	0.3840	0.3760
<b>British Pound</b>	<b>2008</b>	<b>1.459</b>	<b>1.855</b>	<b>1.0272</b>	<b>1.2597</b>
British Pound	2007	1.997	2.001	1.3570	1.4620
<b>Canadian Dollar</b>	<b>2008</b>	<b>0.820</b>	<b>0.944</b>	<b>0.5806</b>	<b>0.6419</b>
Canadian Dollar	2007	1.019	0.935	0.6930	0.6820
<b>Chilean Peso (000s)</b>	<b>2008</b>	<b>1.560</b>	<b>1.950</b>	<b>1.1290</b>	<b>1.3200</b>
Chilean Peso (000s)	2007	2.010	1.920	1.3700	1.4000
<b>Chinese Renminbi</b>	<b>2008</b>	<b>0.147</b>	<b>0.144</b>	<b>0.1041</b>	<b>0.0986</b>
Chinese Renminbi	2007	0.137	0.132	0.0930	0.0960
<b>Euro</b>	<b>2008</b>	<b>1.397</b>	<b>1.471</b>	<b>1.0000</b>	<b>1.0000</b>
Euro	2007	1.473	1.370	1.0000	1.0000
<b>Hong Kong Dollar</b>	<b>2008</b>	<b>0.129</b>	<b>0.128</b>	<b>0.0914</b>	<b>0.0878</b>
Hong Kong Dollar	2007	0.128	0.128	0.0871	0.0937
<b>Indonesian Rupiah (000s)</b>	<b>2008</b>	<b>0.090</b>	<b>0.100</b>	<b>0.0642</b>	<b>0.0700</b>
Indonesian Rupiah (000s)	2007	0.110	0.110	0.0700	0.0800
<b>Indian Rupie</b>	<b>2008</b>	<b>0.021</b>	<b>0.023</b>	<b>0.0144</b>	<b>0.0157</b>
Indian Rupie	2007	0.025	0.024	0.0170	0.0170
<b>Japanese Yen (000s)</b>	<b>2008</b>	<b>11.020</b>	<b>9.700</b>	<b>6.3820</b>	<b>6.1900</b>
Japanese Yen (000s)	2007	8.910	8.500	6.3600	6.6800
<b>Korean Won (000s)</b>	<b>2008</b>	<b>0.790</b>	<b>0.930</b>	<b>0.5637</b>	<b>0.6300</b>
Korean Won (000s)	2007	1.070	1.080	0.7300	0.7900
<b>Mexican Peso</b>	<b>2008</b>	<b>0.073</b>	<b>0.091</b>	<b>0.0520</b>	<b>0.0616</b>
Mexican Peso	2007	0.092	0.092	0.0620	0.0670
<b>New Zealand Dollar</b>	<b>2008</b>	<b>0.579</b>	<b>0.715</b>	<b>0.4109</b>	<b>0.4844</b>
New Zealand Dollar	2007	0.775	0.736	0.5260	0.5370
<b>Norwegian Krone</b>	<b>2008</b>	<b>0.144</b>	<b>0.180</b>	<b>0.1009</b>	<b>0.1219</b>
Norwegian Krone	2007	0.185	0.171	0.1250	0.1250
<b>Singapore Dollar</b>	<b>2008</b>	<b>0.698</b>	<b>0.708</b>	<b>0.4920</b>	<b>0.4824</b>
Singapore Dollar	2007	0.692	0.664	0.4700	0.4850
<b>South African Rand</b>	<b>2008</b>	<b>0.105</b>	<b>0.123</b>	<b>0.0752</b>	<b>0.0836</b>
South African Rand	2007	0.156	0.142	0.0990	0.1040
<b>Swedish Krona</b>	<b>2008</b>	<b>0.128</b>	<b>0.154</b>	<b>0.0912</b>	<b>0.1042</b>
Swedish Krona	2007	0.156	0.148	0.1060	0.1080
<b>Swiss Franc</b>	<b>2008</b>	<b>0.933</b>	<b>0.926</b>	<b>0.6720</b>	<b>0.6306</b>
Swiss Franc	2007	0.888	0.834	0.6030	0.6080
<b>Taiwan Dollar</b>	<b>2008</b>	<b>0.030</b>	<b>0.032</b>	<b>0.0216</b>	<b>0.0217</b>
Taiwan Dollar	2007	0.031	0.031	0.0210	0.0220
<b>Thai Baht</b>	<b>2008</b>	<b>0.029</b>	<b>0.031</b>	<b>0.0207</b>	<b>0.0209</b>
Thai Baht	2007	0.034	0.032	0.0210	0.0230



# PricewaterhouseCoopers 22<sup>nd</sup> Annual Global Forest & Paper Industry Conference Re-energising the forest, paper and packaging industry

During a difficult economy and a severely troubled time in the industry, Bruce McIntyre, Canadian Leader of PricewaterhouseCoopers (PwC) Forest, Paper & Packaging practice, welcomed close to 400 people from across the globe to PwC's 22nd Annual Global Forest and Paper (FPP) Industry Conference on 14 May in Vancouver.

At this year's conference we welcomed colleagues not only from the FPP sector but also in the bioenergy, government and energy sectors who brought new perspectives to the conference's theme of re-energising the forest and paper industry.

Throughout the day participants heard views on the multiple issues facing the sector today and engaged in discussion of new opportunities.

## The financial wall

Craig Campbell rightly commented that the forest industry has experienced some of the heaviest losses in its entire history.

"The economic tsunami that hit last Fall washed away hopes of an upswing in the sector," said Campbell. "We're working with this new version of normal, where low prices, low earnings, and pessimistic forecasts are the way things are."

Jock Finlayson agreed with Campbell. "While everyone knows the dismal year we are in," Finlayson said "at least 2009 is only 12 months".

Don Roberts echoed Finlayson, when he said it's difficult for even those companies with strong balance sheets to operate due to capital rationing. However, Don sees some bright spots on the horizon—for instance, China's CAD \$725 billion stimulus package. The impact is already showing, with a clear turnaround in the perceived business conditions in China. But Roberts wonders is this enough? Clearly, he said "the industry's transformation is just starting".

According to Mike Vermette, "To survive the downturn and position for post 2011 success, operational improvements will also be required." Vermette cites production curtailments, sales of non-core assets and freezing of non-strategic expenditures among other improvements to undertake.

There seems to be a perfect storm of challenges for the industry highlighted by Market Outlook panelists, Chris McIver, Roman Hohol, Daniel Veniez and Clark Binkley. Common themes were decreased demand in most product categories and a need for fundamental change.

McIver cites new home volumes which have been dropping since mid 2006 but also believes that demographics in the US indicate strong future housing demand. For his part, Hohol believes that setting aside the cyclical drop, there is a secular slide in demand for printing and writing papers, with the rapid adoption of new media technologies being the main contributor, and that future demand will be impacted by consumer media and entertainment spending habits, changes in media distribution channels, media company and advertiser strategies and environmental issues. Yet according to Hohol, China, and its potential voracious demand could still be a life saver for graphics papers.

Meanwhile Binkley commented on timber demand, which is derived from mill capacity. With the closure of manufacturing capacity that means that timber demand and prices will not recover as rapidly as product prices. According to Binkley, "The longer the downturn, the slower the recovery: timber is being "stored on the stump" and that supply will tend to attenuate price increases."

Veniez knows the problems, which are well documented. The first step according to Veniez, "Start at the top. Not only does there have to be a political will for change but boards, unions and government will have to work together. Fundamental reform is the only solution."

## The innovation imperative

Innovation will be key. FPP companies must develop new and creative strategies to reduce costs, improve margins and implement new solutions.

John Allan feels that one emerging bright light is the potential in British Columbia (BC) to build a world class bioenergy capability. John says wood is the best product and BC is in a unique position to take advantage of the convergence of economic, environmental, and energy security concerns.

Donna Harman encourages new technology and believes that the advent of new industry entrants will help existing producers weather the financial storm. Current AF&PA competitiveness policy issues include bioenergy mandates, climate change, increasing energy supply, tax policies, green procurement for wood and paper products, and recycling.

When it comes to government intervention, the Honorable Lisa Raitt believes strongly in collaboration. Jobs are being lost and lives in the forest-dependent economy are being affected by the downturn. She encouraged the Canadian forest industry to not just weather the storm, but to chart its own course and call the shots. She noted that the government does have programs in place to ensure the industry is ready for when the upswing comes. The CAD\$1 billion Community Adjustment Fund announced at the conference is intended to provide support to communities across Canada so that they can explore and develop new ideas, broaden and diversify to create jobs, especially in the resources sector.

Further, Ottawa has said it will help Canadian pulp producers struggling because of the renewable energy tax credits gained by their US rivals.

## Options and challenges

Developments in the bioenergy field offer new opportunities for re-energizing the forest industry, according to speakers from Catchlight Energy, Indufor Oy and Pristine Power.

Catchlight is a Chevron and Weyerhaeuser joint venture created to commercialize large scale production of liquid transportation fuels from sustainable forest based resources.

“A joint venture in all aspects of the value chain,” said Michael Burnside. But they face many challenges.

According to Burnside, it is critical to get sustainability right or the business model will not work well. Furthermore, he feels overcoming many hurdles, including the need to demonstrate to a skeptical public that the model is genuinely sustainable, is essential. Due to the cost of fibre used in production of energy, the price of oil will also play a critical role. Burnside feels that as the economy starts to improve so will the demand for oil. “The breaking point is at about \$70 per barrel, but biofuels should supplement, not totally displace oil.”

Petri Lehtonen doesn't think that forest owners will be able to rely solely on bioenergy, rather they must diversify and partner. “Joint ventures have their advantages since the cost to convert can be staggering.”

“We have to work cooperatively,” said Harvie Campbell, Executive Vice President with Pristine Power Inc, which in the business of developing, owning and operating independent biomass power facilities that will produce and sell electricity, and in some cases, sell process steam to industrial users. “The policies in place are ok. It's implementation that's key.”

### What are they going to do about it?

When CEOs sat on stage and discussed the future of the industry, they were filled with hope from lessons learned as well as working towards revitalised business plans and strategies. For many it's a survival and strategy story. According to Jim Shepard, the downturn could be an opportunity for BC to once again become a real competitive player in the market, but it will take a concerted effort from everyone involved—companies, labour, government etc.

Although it is on their agenda, bioenergy is not yet a priority for many companies. Shepard says that bioenergy will be based on good economics and on government stimulus. Yet, it's always good practice to consider the best use of a tree once it has fallen—first lumber, second chips and third the residue. But whole tree harvesting for energy is not viable. “It's too expensive to generate something like electricity from that tree.”

Magnus Hall noted that bioenergy will depend on the cost and making the best use of the tree—emphasising that a forest is a renewable resource and if properly used could provide increased value to a company.

This is a point Richard Garneau agreed with, however he remarked that “consumers will be the ones paying higher prices” if costs increase. Garneau also noted that the industry is green by default and everyone is committed and looking to define the green credentials and reputation of the forest industry.

Indeed, Hall says, companies are taking more decisive action and 2008 has proved that the industry is learning and capitalizing on the opportunities ahead of them. But bioenergy demand has the potential to destroy or save the pulp and paper industry, largely based on the ability to pay. Hall notes that the facilities should aim for self-sufficiency and take mind of possible power producer monopolies.

### So what's next?

Certainly collaboration and diversification will be high on the list of action items. The industry needs to transform itself with new ways of doing business in addition to the fundamentals of reducing costs and expanding markets. Indeed, the opportunity exists to revitalise the forest industry and its competitiveness by making use of technology and abundant forest resources for the production of forest and paper products, bioenergy and other bioproducts in an environmentally conscious manner, thus enhancing sustainable economic development.





## Panelists:

### **John Allan**

President, BC Lumber Trade Council  
President & CEO  
Council of Forest Industries  
*Vancouver*

### **Clark Binkley**

Managing Director, International  
Forestry Investment Advisors, LLC  
*Boston*

### **Michael Burnside**

President & CEO, Catchlight Energy LLC  
*San Francisco*

### **Craig Campbell**

Leader, Performance Improvement,  
Forest, Paper & Packaging Practice  
PricewaterhouseCoopers LLP  
*Vancouver*

### **Harvie Campbell**

Executive Vice-President  
Pristine Power Inc.  
*Vancouver*

### **Jock Finlayson**

Executive Vice-President, Policy  
Business Council of British Columbia  
*Vancouver*

### **Richard Garneau**

President and CEO  
Catalyst Paper  
*Vancouver*

### **Magnus Hall**

CEO  
Holmen AB  
Chairman, Confederation of European  
Paper Industries  
*Stockholm*

### **Donna Harman**

President & CEO  
American Forest & Paper Association  
*Washington, DC*

### **Roman Hohol**

Director, Marketing Practice Area  
AMEC Forest Industry Consulting  
*Toronto*

### **Petri Lehtonen**

Deputy Managing Director  
Indufor Oy  
*Helsinki*

### **Chris McIver**

Vice-President, Lumber Sales  
West Fraser Timber  
*Quesnel*

### **Don Roberts**

Managing Director  
CIBC World Markets Inc.  
*Ottawa*

### **James Shepard**

CEO  
Canfor Corporation  
*Vancouver*

### **Daniel Veniez**

Chairman  
DDV Enterprises Limited  
*Vancouver*

### **Mike Vermette**

Partner, Corporate Advisory  
and Restructuring  
PricewaterhouseCoopers LLP  
*Vancouver*

## Luncheon speaker:

### **Hon. Lisa Raitt**

Member of Parliament for Halton, Ontario  
and Minister of Natural Resources



## Mark your calendar

PricewaterhouseCoopers 23<sup>rd</sup>  
Annual Global Forest & Paper  
Industry Conference

May 11, 2010 – Vancouver, Canada  
Westin Bayshore Resort & Marina

## Global reviews

### **Forest, Paper and Packaging Deals – Global deals activity in the forest, paper & packaging industry (2009)**

This publication reviews 2008 deal activity in the forestry, paper and fibre packaging sectors, exploring the key drivers behind transactions in the industry. The analysis also focuses on deal activity by key regions and considers the future transactions outlook. The 2009 edition included a series of deal dialogues around the following issues: making the most of M&A opportunities in a downturn; re-energising the forest products industry through the use of available wood feedstock and industry infrastructure to generate new sources of revenue from bioenergy, biofuels, biochemicals and other bioproducts; and the widening scope of funders' sustainability screening.

### **CEO Perspectives – Viewpoints of CEOs in forest, paper & packaging companies worldwide (2008)**

Our second edition of CEO Perspectives summarises the thoughts of 26 CEOs, or equivalent, from the forest, paper & non-paper packaging sectors around the world on key issues facing the industry. The thoughts of CEOs of companies based in North America; South America; the Middle East, Europe & Africa (EMEA); and Asia, were drawn from face-to-face and telephone interviews conducted between August and December 2007. The combined sales revenue of the companies interviewed was over \$120 billion. Questions were focused, but not exclusively, on the following topics: cost structure, customers, supply chain and sustainability. The third edition is scheduled for publication in Fall 2009.

### **IFRS in FPP – Applying IFRS in the forest, paper & packaging industry (2007)**

This publication and corresponding website ([www.pwc.com/fpp/ifrs](http://www.pwc.com/fpp/ifrs)) contain our developing solutions to help our clients in understanding the implications of IFRS on the forest, paper & packaging industry.

## Technical issues

### **Forest Industry: Application Review of IAS 41, Agriculture: The Fair Value of Standing Timber (2009)**

This study reviews how fair value is being applied by forest owning companies using IFRS. It aims to provide insight into the key judgments that are being made or have been made by preparers from around the world and highlights some of the difficulties as well as similarities and differences.

## Regional reviews

### **Putting IFRS in Motion – The impact of International Financial Reporting Standards (IFRS) on the Canadian forest, paper and packaging sector (2009)**

This report draws on PwC's experience working with more than 12,000 companies during their IFRS transition and details valuable lessons applicable to Canada's forest, paper and packaging sector. In particular the report discusses some of the differences between Canadian GAAP and IFRS and how we can manage your transition to the new reporting language.

### **Risks & Rewards – Forest, paper & packaging in South America (2007)**

This publication addresses the state of the industry in South America – a series of interesting growth markets for forest, paper and packaging products – and reflects on key considerations for potential investors. With the lowest wood costs of any leading producer region, South America looks set to become a dominant producer of market pulp globally. The publication includes a major focus on Brazil as well as sections on other key South American markets – Argentina, Chile, Colombia & Uruguay.

## Related materials

### **Outlook for Newspaper Publishing in the Digital Age (2009)**

This study examines the outlook for newspaper publishers as they deal with long-term structural challenges related to declining circulation and ad sales, adapt to the digital revolution, and cope with the continuing fallout of the global economic slowdown. Research by PwC's Entertainment & Media Industry practice, carried out in cooperation with the World Association of Newspapers (WAN), focuses on two key issues: the change of consumer behaviour with respect to their consumption of news content, and the response of newspaper publishers, advertisers, advertising agencies and media buyers to these changes.

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

### Global Leader

**Clive Suckling**

Phone: +44 (20) 7213 4887

### Global Marketing

**Joy Winton**

Phone: +44 (20) 7804 6008

### Performance Improvement Leader, Global FPP

**Craig Campbell**

Phone: +1 (604) 806 7603

**Argentina****Mariano Tomatis**

Phone: +54 (11) 4850 4716

**Australia****Andrew McPherson**

Phone: +61 (2) 8266 3275

**Austria****Ian Murdoch**

Phone: +43 (1) 5018 81420

**Brazil****Marcelo Orlando**

Phone: +55 (11) 3674 3875

**Canada****Bruce McIntyre**

Phone: +1 (604) 806 7595

**Chile****Ricardo Arrano**

Phone: +56 (2) 940 0000

**China****Kenny Ch Yeung**

Phone: +852 2289 2310

**Colombia****Gustavo Dreispiegel**

Phone: +57 (1) 635 4802

**Ecuador****Roberto Tugendhat**

Phone: +593 (4) 228 8199 641

**Finland****Juha Wahlroos**

Phone: +358 (9) 2280 1437

**France****Benoît Pinoche**

Phone: +33 (2) 5184 3636

**Germany****Alexander Winter**

Phone: +49 (89) 5790 5400

**India****Rajan Wadhawan**

Phone: +91 (124) 462 0555

**Indonesia****Jumadi Anggana**

Phone: +62 (21) 521 2901

**Ireland****John McDonnell**

Phone: +353 (1) 792 8559

**Italy****Maria Teresa Bernelli**

Phone: +39 (461) 237 004

**Japan****Masahiko Hagimori**

Phone: +81 (0) 80 3158 6698

**Malaysia****Kah Seong Fan**

Phone: +60 (82) 423 308

**Mexico****Javier Monroy**

Phone: +52 (55) 5263 6114

**Middle East****Robert Barnden**

Phone: +966 (01) 465 4240

**Netherlands****Rob Dekker**

Phone: +31 (10) 407 5230

**New Zealand****Jonathan Freeman**

Phone: +64 (9) 355 8303

**Norway****Erling Elsrud**

Phone: +47 (95) 260 005

**Poland****Ewa Woroszyl**

Phone: +48 (22) 523 4381

**Portugal****António Correia**

Phone: +351 (225) 433 114

**Russia (+ CEE)****Alexei Ivanov**

Phone: +7 495 967 6000

**Singapore****Teck Soon Chew**

Phone: +65 (62) 363 328

**Slovakia****Maria Fruhwaldova**

Phone: +421 (2) 5935 0400

**South Africa****Heinz Zastrau**

Phone: +27 (11) 797 4431

**South Korea****Kwang-Oh Kim**

Phone: +82 (2) 709 0690

**Spain****Javier Domingo**

Phone: +34 (94) 602 2511

**Sweden****Bo Lagerström**

Phone: +46 (8) 5553 3041

**Switzerland****Arno Frieser**

Phone: +41 (58) 792 2656

**UK****Clive Suckling**

Phone: +44 (20) 7213 4887

**Uruguay****Daniel Garcia**

Phone: +598 (2) 916 0463

**U.S.****Todd Stroup**

Phone: +1 (678) 419 1418

**Venezuela****Victor Nieto**

Phone: +58 (281) 418 7935

PricewaterhouseCoopers is committed to environmental stewardship, including sound paper procurement and usage practices that ensure the sustainability of forests and other natural resources.

To reach this goal we have developed policies and procedures to guide our paper procurement and use, to promote the responsible use of natural resources, and to recognize and support the environmental initiatives of our suppliers.

The text pages of this document<sup>1</sup> are printed on Electrastar 45, containing 100% certified wood fiber, and produced by Catalyst Paper in accordance with PricewaterhouseCoopers Independent Chain of Custody Standard. ([www.pwc.com/fpp/icoc](http://www.pwc.com/fpp/icoc)). This Standard facilitates tracking of the environmental attributes of paper and wood products from the forest to the customer including wood fiber certified to CSA, SFI, PEFC and FSC sustainable forest management standards.

The cover is printed on Domtar Cougar 80lb cover which contains 10% post-consumer waste and is derived from well-managed forests.

This document was printed by Teldon Print Media, Richmond, British Columbia, using vegetable-based inks.

