

Information Bulletin

NUMBER 114 • JUNE 2008

PROCEEDINGS OF THE CN TRADE RELATIONS FORUM ON FOREST PRODUCT MARKETS

UNIVERSITY OF ALBERTA
APRIL 16, 2008

*Western Centre for Economic Research
School of Business, University of Alberta
Edmonton, Canada T6G 2R6
www.business.ualberta.ca/CIBS-WCER*



**Western Centre for Economic Research
University of Alberta
Edmonton, Alberta**
www.bus.ualberta.ca/wcer
with support from: The George M. Cormie Endowment

Library and Archives Canada Cataloguing in Publication

CN Canada-US Trade Relations Forum (2008 : University of Alberta)

A CN Canada-US Trade Relations Forum [electronic resource] : forest product markets : April 16, 2008, Western Centre for Economic Research, School of Business, University of Alberta.

(Information bulletin ; no. 114)

Also available in print format.

ISBN 978-1-55195-929-0

1. Forest products industry--Alberta--Congresses. 2. Forest products industry--North America--Congresses. 3. Forest products--Marketing--Congresses. I. University of Alberta. Western Centre for Economic Research II. Title. III. Series: Information bulletin (University of Alberta. Western Centre for Economic Research) ; no. 114

HD9764.C33A4 2008a

338.1'7498097123

C2008-903520-8

Contents

Opening Remarks	1
Helmut Mach.....	1
Honourable Ted Morton.....	1
Andrew Fuller	2
Presentation: Ted Helvoigt, ECONorthwest	3
Questions for Ted Helvoigt.....	16
Presentation: Ray Luchkow, PriceWaterhouseCooper	18
Current Situation	19
Market Forces	21
Industry Performance	28
Industry Impacts.....	31
Going Forward	34
Questions for Ray Luckow	36
Presentation: RISI	37
Presentation: Andrew Fuller, Director of Marketing, CN Forestry Products Business Division.....	53
New Options to Improve Capacity	58
Panel Discussion and Questions	62

Opening Remarks

Helmut Mach

Director of the Western Centre for Economic Research and CN Executive Professor of Canada – US Trade Relations, School of Business, University of Alberta

Good morning, and welcome to the CN Trade Relations Forum on Forest Product Markets. We've brought together a considerable group of industry experts to provide an overview of the situation in both the US and Alberta markets, as well as forecasts for a variety of forest products.

The recent challenges facing the Alberta forest industry have sparked renewed interest in the future of markets for our forest products. Low commodity prices, trade barriers, Mountain Pine Beetle outbreaks, spiralling costs and a tight labour market are just some of the factors acting as a drag on the sector. This workshop places the Alberta situation within the context of the North American and global marketplaces. Market experts will provide insight into the demand for our forest products, now and going forward.

Honourable Ted Morton

Minister of Alberta Sustainable Resource Development

Thank you Helmut and thank you CN for sponsoring this and thank all of you for being here today to help us sort things out. I've been the Minister of SRD for sixteen months now, and this is my sixth or seventh opportunity to address a forestry and wood products audience. The previous times I have talked about the light at the end of the tunnel or 'it's darkest just before dawn'. Every time I come back we're still in the tunnel, or it's been darker than before. So I'm not going to say the light at the end of the tunnel or the darkest before dawn comments. We have experts here today from different sectors and I'll leave it to them to tell you how, where, when and why the forest sector is going to come out of the tunnel. We probably won't be laughing about much today.

If I can try to be a little bit positive, I'll say what you know, and what everyone knows, and that's that commodity markets are cyclical. Whether it's forest products, grain and beef, oil and gas, all commodity markets are cyclical, and sooner or later, we have people that know better than I as to when that the cycle will go up and the markets will improve again. And we still remain. We in Alberta and we in the Canadian Forest Industry are next to the biggest, richest economy in the world, and those markets will return.

We, as the government of Alberta, have to focus on what we can influence and what we cannot. We cannot influence the subprime prices in the US or the exchange rates, but we can influence the conditions in Alberta under which the industry works. We will commit, and we have committed, to improving those working conditions to help get you and your companies through the rest of this downturn. The premier, in my mandate letter, made working and helping to ensure the long-term viability of the forestry industry in Alberta one of my three top mandates, so that is on my assignment list from the premier.

One initiative that we have put forward and will be pursuing is our Research and Development and Development Tax Credit Program, which we think is going to potentially help the industry. Most of you are also aware that the new Institute for Forestry, Agriculture and Environment has been set up with Ken Nichol, former Lethbridge Liberal MLA, as Chairmen. It's been given a budget of several million dollars, so we are hoping for positive opportunities to come out of that. We're also in discussions with FP Innovations Alliance. FP Innovations has worked with Alberta Research Council in the past with some positive results, so we're hoping to see similar results going forward.

In closing I just want to repeat our government's commitment and the commitment of Sustainable Resource Development to the industry. Many members of our department, particularly from the economic strategy division of our forestry, are here all morning, and will be meeting with RISI after lunch. We are looking forward to the discussion and the information analysis for which we have been brought here together this morning. I want to thank Helmut for this, as well as thanking everyone for being here.

Andrew Fuller

Director of Marketing, CN Forest Products Business Unit

I will keep my comments very brief. I just want to welcome everyone today, and introduce myself, Andrew Fuller, from CN. I am Director of Marketing for the Forest Products Business Unit at CN. I'm extremely pleased to be here today. We are in a situation that would best be called a perfect storm from an industry and market view, especially from a Canadian perspective with the dollar at its height, demand hopefully at its lowest level, inflationary pressure that we are all under, and the price of oil which is skyrocketing over the past year. These are the definitions of tough times for our industry, so these types of events are incredibly valuable for all of us in the entire supply chain for this market. I am extremely pleased with the work that Helmut and his team have put together, with the list of speakers, the experts that are on the agenda. I am looking forward to hearing from them. The amount of information and insight that they will be able to give us will help us prepare not only for tomorrow, but more so for next year and the year after that. I think it will be invaluable. I hope the session goes very well. Any questions that anyone has will be answered during the panel session. Thank you again.

Slide 1

Economic Transitions in Alberta's Forest Products Industry

Ted L. Helvoigt
ECONorthwest
Eugene, Oregon

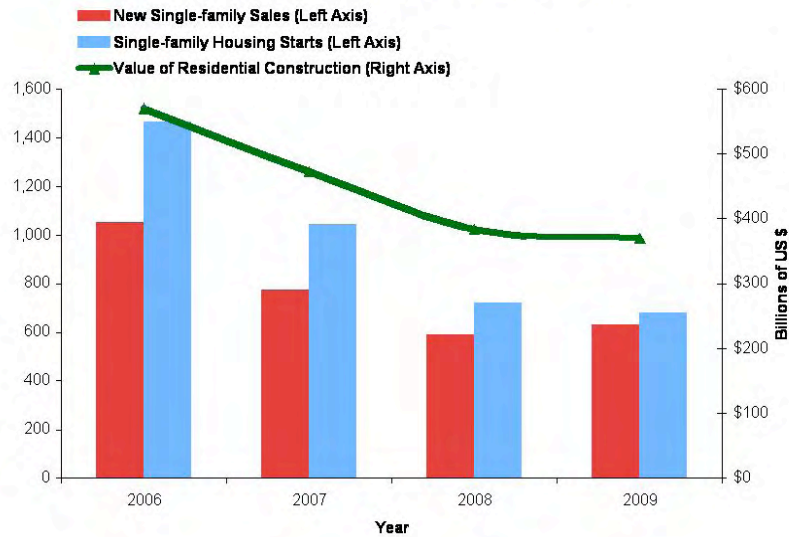
Slide 2

Transitions in Alberta's Forest Industries

- Wood Products Demand & Alberta's Competitiveness
 - US Housing Market
 - Broader US Economy & US Dollar
 - Competitiveness of Alberta's Wood Products Industry
- Looking Forward: Changes in Industry; Effects on Workers & Communities
 - Technical Change
 - Worker Dislocations
 - Changing Regional & Local Economies

Slide 3

Slumping U.S. Housing Sales & Starts to Bottom-out in Late 2009?

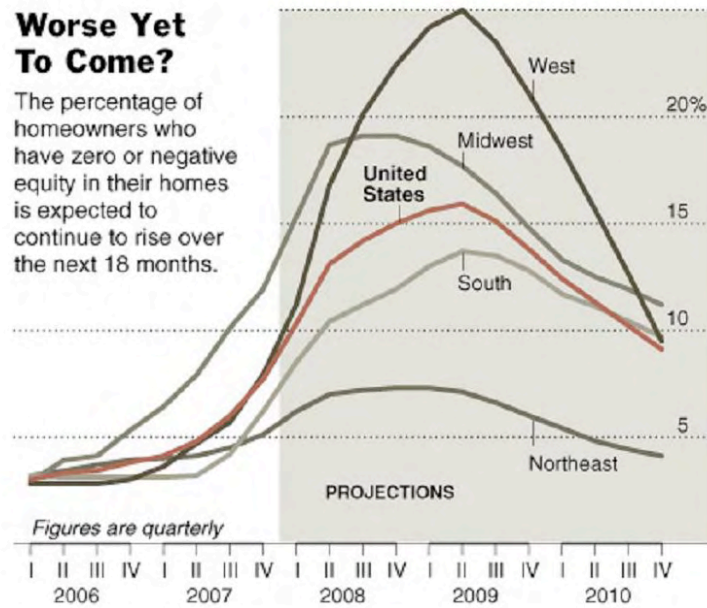


Slide 4

US Home Equity Crisis?

Worse Yet To Come?

The percentage of homeowners who have zero or negative equity in their homes is expected to continue to rise over the next 18 months.



Sources: Bureau of Census American Housing Survey; Fiserv Case Shiller; Moody's Economy.com

THE NEW YORK TIMES

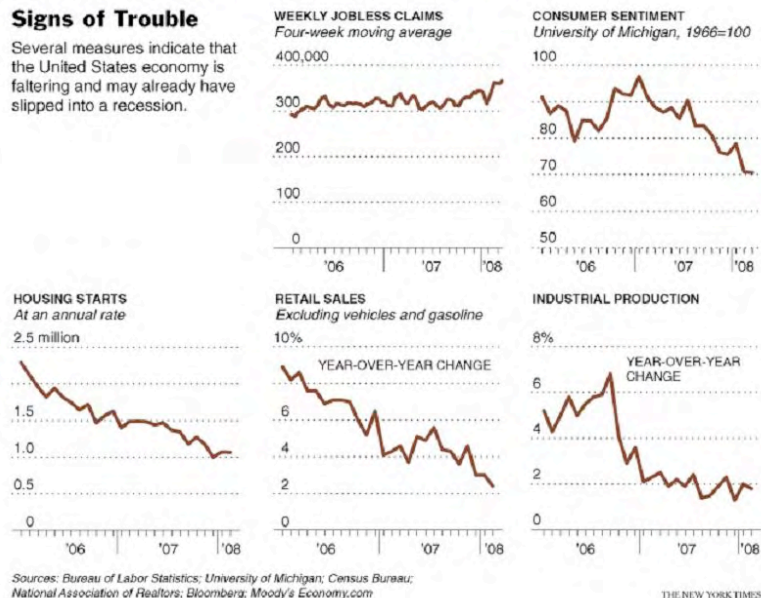
Recession in the U.S.?

- **Standard definition:** A decline in the Gross Domestic Product (GDP) for two or more consecutive quarters.
- **National Bureau of Economic Research (NBER) definition (paraphrased):** The time between a peak and bottom in business activity.
- **“Forest Industry definition”:** A severe downturn in U.S. housing market and ongoing troubles in the credit market.

Broader US Economic Crisis?

Signs of Trouble

Several measures indicate that the United States economy is faltering and may already have slipped into a recession.



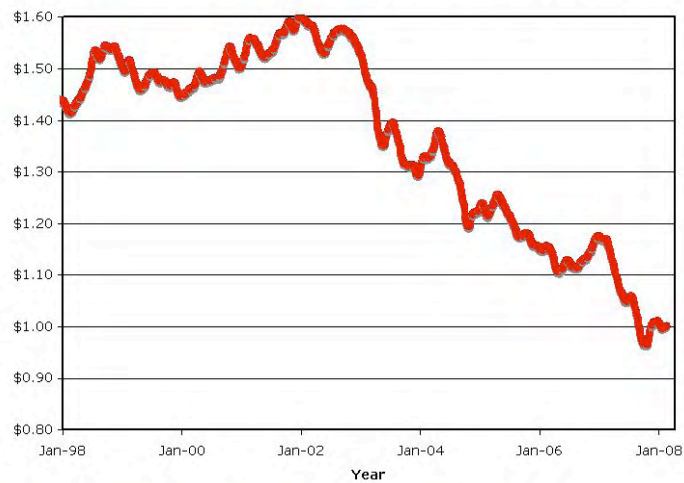
Alberta's Forest Products Industry: *The Upside*

- Alberta and Interior BC mills are among the lowest cost lumber producers in North America
- Lower AAC in Ontario and Quebec may allow Alberta producers to increase market share in U.S.

Alberta's Forest Products Industry: *The Downside*

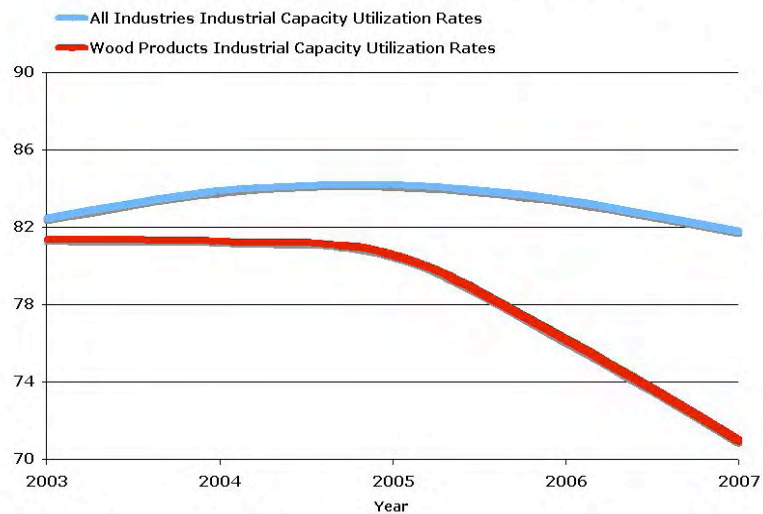
- The export tax on Alberta lumber increases to 15% when Random Length lumber composite price is \$315 or lower.
- After ravaging much of BC's pine forests, mountain pine beetles are now impacting Alberta's forests.

U.S. Dollar Depreciation Has Hurt Canadian Lumber Producers



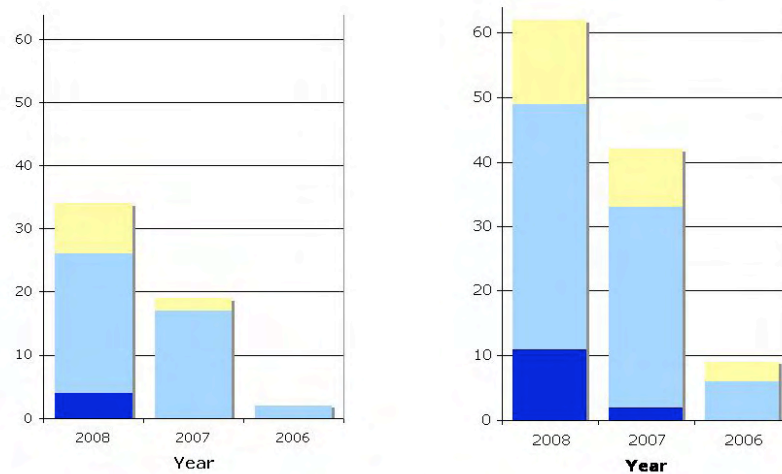
Source: Bank of Canada, <http://www.bankofcanada.ca/en/rates/exchange.html>

Capacity Utilization has Declined for Alberta Wood Products Producers



Source: Statistics Canada <http://www.statcan.ca/>

Mill Closures & Curtailments



Note: Based on announcements for December-March (e.g. 2008 number represents December 2007 through March 2008)
Source: Random Lengths (mill) Curtailment Watch, <http://www.randomlengths.com/>

Looking Forward:

Changes in Alberta's Sawmilling Industry; Effects on Workers & Communities

*A Perspective from the U.S. Pacific
Northwest*

The Connection

- The wood products industry in the U.S. PNW underwent a painful contraction in the early 1990s.
- The causes of Alberta's current downturn differ in many ways from the U.S. experience.
- Nevertheless, the transitions faced by Alberta's wood products industry, workers, and communities will likely be similar to those faced in the U.S. more than a decade ago.

The U.S. PNW Experience in a Nutshell

- The wood products industry contracted:
 - Became more productive
 - Substantially reduced labor
- Many workers were dislocated:
 - Those that remained experienced slow wage growth
 - Of those that left, most lost ground economically
- Impacts on timber-dependent communities varied:
 - Many of the most rural communities continue to suffer
 - Natural amenities have helped others attract new industry & migrants
- The Northwest economy has prospered:
 - Economic diversification has led to greater economic stability
 - Natural amenities have been an important driver of growth

Rate of Productivity Growth in PNW Sawmilling Increased in the 1990s

- 1970s: TFP = 0.55% — 1.6% per year
- 1980s: TFP = 0.44% — 1.9% per year
- 1990s: TFP = 1.31% — 2.1% per year

Sources:

A Stochastic Frontier Analysis of Technical Progress, Efficiency Change and Productivity Growth in the Pacific Northwest Sawmill Industry, Ted L. Helvoigt & Darius M. Adams (submitted to Journal of Forest Policy & Economics)

Data Envelopment Analysis of Technical Efficiency and Productivity Growth in the U.S. Pacific Northwest Sawmill Industry, Ted L. Helvoigt & Darius M. Adams (submitted to Canadian Journal of Forest Research)

The Characteristics of Productivity Growth in PNW Sawmilling

- Driven by Technical Change
- Strong Labor Saving Bias
- Capital-Using Bias
- Eastside Sawmills (pine region) Lagged Behind Westside Mills (Douglas fir region)

Job Losses in Sawmilling Industry Not Only Due to Reduced Harvest

- 1988 Employment Level \approx 40,000
- 1994 Employment Level \approx 30,500
- Total Job Losses over this period = 9,500
- Of these...
 - *Between 2,100 and 3,600 (23% — 38%) jobs were lost due to labor-saving productivity change*
 - *Between 5,900 and 7,400 (62% — 77%) jobs were lost due to reduced log harvest*

The Northwest Sawmilling Industry Today

Strong productivity growth over the last three decades has helped Northwest lumber producers remain competitive in an ever-increasing global marketplace

Worker Impacts in Oregon

- Prior to the 1990s, sawmills and logging were viable employment options for many Oregonians
- Displacement of forest products workers in the late 1980s and 1990s disproportionately affected the least skilled workers and workers in the more rural parts of Oregon
- Average incomes for those who remained in the industry grew faster than those dislocated from the industry, but not as fast as Oregon workers as a whole
- Many workers in southern & eastern Oregon who left the industry moved to the Willamette Valley for work

Community Impacts in Oregon

- Prior to the 1990s, sawmills and logging were important components of many Oregon communities across the state
- Today, Oregon's forest products industry is much more geographically consolidated
 - Strong investment in mills in Willamette Valley & Douglas County
 - The industry contracted substantially in the eastern and southern parts of the state

Social Landscape, Northwest

- Fewer Northwesterners today are directly connected to the forest products industry
- Many perceive clearcut logging to be environmentally harmful
- For many, logging on federal lands should be done only for forest health reasons

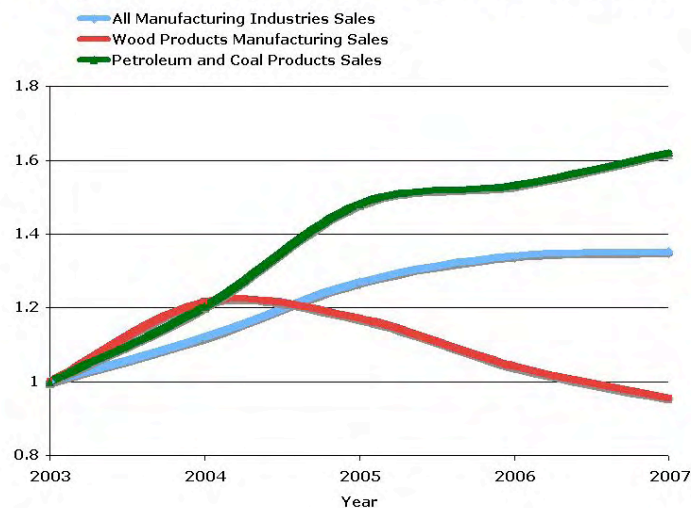
Economic Landscape, Northwest

- Technical change has allowed forest industries to produce more lumber and other wood products with fewer workers
- Greater societal focus on other economic values provided by forests (e.g. wildlife habitat, clean water, aesthetics, ...)
- Strong economic pressures to move productive (private) forests into housing & other development

Bringing it Back to Alberta...

- Forest Products Industry:
 - Will become “leaner & meaner” if possible
 - Output will likely contract at least temporarily
- Forest Products Workers:
 - Many will leave the industry
 - Oil & gas will likely absorb many workers
 - Others may relocate for higher-pay employment
 - Wages of those who remain may stagnate
- Forest-dependent Communities:
 - Must understand and prepare for change
 - Natural amenities may attract new industry

Manufacturing has Grown in Alberta Despite Downturn in Wood Products



Potential Risks

- Softwood Lumber Agreement (SLA)
 - Federal, provincial, & governments cannot take actions that offset the SLA export measures (Anti-Circumvention)
- Mountain Pine Beetle (MPB)
- Reductions in AAC
- Adverse environmental impacts associated with global climate change

Opportunities

- Softwood Lumber Agreement (SLA)
 - Secondary wood products industry benefits from “*First Mill Treatment*”—no tax on value-added manufacturing
- Alternative international markets for Alberta wood products
- Alternative opportunities for Alberta forests
 - Future carbon markets?

Questions for Ted Helvoigt

Question: You showed a graph of homeowners who had zero or negative equity in their homes. Is this a result of government policy that encouraged lenders to lower requirements so that more people could participate in home ownership?

Ted Helvoigt: In America we love to beat up on the industry side of the credit and housing bubble: the brokers, Wall Street, the bank, etc. Underneath the subprime debacle, there have been several decades of both administrations and of congress saying, "We need to increase home ownership, we need to increase home ownership." Eventually we said, "Ok, let's increase home ownership." Home ownership was extended to people who were not credit-worthy. I don't know how much you can disentangle the effect, but it's certainly a very strong effect. Underlying building, there was a conscious effort towards that, but they are backing away from that now.

Question: Any thoughts as to what might cause the US dollar to recover? You said you thought it would stay down for a while.

Ted Helvoigt: During the conversations we had yesterday, someone mentioned they had recently heard that the G7 were thinking of methods to help stabilize the dollar. I think other members of the G7 have their own housing bubbles and will have their own problems to deal with in the near future. I don't know how you would stabilize something as big as the dollar. I don't have a really good feel for that.

Question: Helmut Mach

You mentioned the consolidation of the industry in Oregon in certain areas. Did that result in longer log hauling? And did that in consequence put increased pressures on the state for transportation infrastructure? Did that cause an additional requirement on the state and the companies?

Ted Helvoigt: Good question. The hauls have definitely gone up across the North West, if you look at the different timber sheds across north California up to Washington. Logs can travel 100 to 150 miles, that's not that unusual. You hear people talk about how inefficient it is to see logging trucks pass each other on the interstate; why don't they just deposit at each other's mills and reconcile later? Log hauling distances have definitely increased, though I think they are going to shrink back down with fuel prices. On the infrastructure side, most of the lands are private, so the state is not contributing to the construction of roads on private land. I'm not aware of any subsidies in any respect there. The trucks are paying a pretty steep price for the weight they are putting on the roads, just like other truckers.

Helmut Mach: I'm not so much concerned about subsidies, rather whether there are any demands on the municipalities, localities or states for improved transportation infrastructure?

Ted Helvoigt: Shifting from roads to railroads, we have a crisis in Oregon on both the east side and the west side. Rail is the most efficient way to transport lumber and logs. On the east side, we have one or two short lines that are threatening closure. On the west side, both of our links to the coast – and again it's hard to have mills on the coast, but the trees grow so fast over there, but you have constant transportation problems. The northern line has closed completely, and the government has not assisted it. To me it seems like a smart investment to keep that line open. As for the southern line, I read earlier this week, either the state or the feds have gone after the owners, because it appears that they have abandoned it. Probably to a fault, my guess is that we have not assisted, and this is not just for forest products but principally for forest products, we have not maintained our transportation infrastructure on the rail side.

Forest Products Markets: "The Status of Domestic Producers"

Slide 1

Agenda

- Current situation
- Market Forces
- Industry Performance & Impact
- Going Forward
- Q&A

Good morning, ladies and gentlemen. Thank you for inviting me to speak with you today. Thanks to CN Canada, the Western Centre for Economic Research and, of course, the University of Alberta.

First off, let me say that the Canadian forest industry is in crisis and Alberta producers continue to be subjected to operating conditions characterized by many as the worst on record. However, it is my sincere hope that forums such as this will stimulate ongoing discussions on a path toward addressing the short, medium and long term issues facing the Alberta and Canadian industry.

Our previous speaker, Ted Helvoigt, provided us with excellent insight into the current economic downturn in the US and its potential impact on the forest products industry.

I would like to follow on and focus a bit more closely on Forest Product Markets from the perspective of Alberta forest product producers.

My presentation this morning will cover:

- The current conditions or context for Alberta's industry;
- The main market forces influencing industry performance and impact; and
- Conclude with some observations and thoughts going forward.

Current Situation

Slide 2

Overview

- ▶ 2/3rd of Alberta's land base is covered by forests.
- ▶ 24.5 million cubic meters of annual allowable cut – approx. 60% softwood, 40% hardwood.
- ▶ Alberta's forests are integrated and mixed and so is the industry.
- ▶ Products: lumber, pulp & paper, panels and other products.
- ▶ Alberta Industry represents 12% of Canada's production.
- ▶ Significant provider of employment to rural communities.



As many of you know, 2/3 of Alberta's land base is covered by forests.

Alberta's forests are sustainably managed and currently supply 24.5 million cubic meters of annual allowable harvest.

Alberta's forests are integrated and mixed and so is our industry. Forest products production is dominated by commodities - lumber, pulp and paper, engineered wood as well as other smaller amounts of niche and specialty products.

Alberta ranks fourth behind Ontario, Quebec and BC in terms of size, representing approximately 12% of Canada's production.

Alberta's forest resource has also played a significant role in shaping our natural environment, economic position and social well-being. The forest industry is a significant provider of employment to rural communities.

Competitive Realities

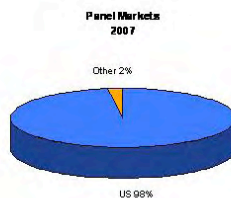
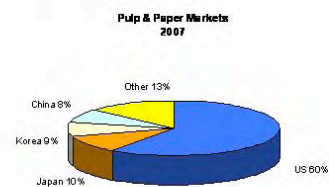
- ▶ While plentiful, Alberta's forest have relatively low productivity.
- ▶ Alberta is geographically distant from major markets, making transportation a key consideration.
- ▶ Mountain Pine Beetle has significant forest health and sustainability implications.

However, while plentiful our forests have relatively low productivity when compared to our neighbours across the Rocky Mountains for example.

Alberta is geographically isolated from major markets and we do not have direct access to tidewater (making transportation a key consideration) and the most recent infestation of Mountain Pine Beetle has become a significant forest health issue that threatens forest and industry sustainability.

Alberta Export Markets

- ▶ In 2007, 48.5% of lumber, 35.2% of panelboard and 72.3% of pulp & paper production were shipped outside the country*.
- ▶ US continues to be the largest market for all our exports.



* Source: Industry Canada, Trade Data Online

With our low population base, Canadian and Alberta producers rely heavily on export for the products we produce. In 2007, 50% of lumber, 35% of panel and 73% of pulp production in the province was exported.

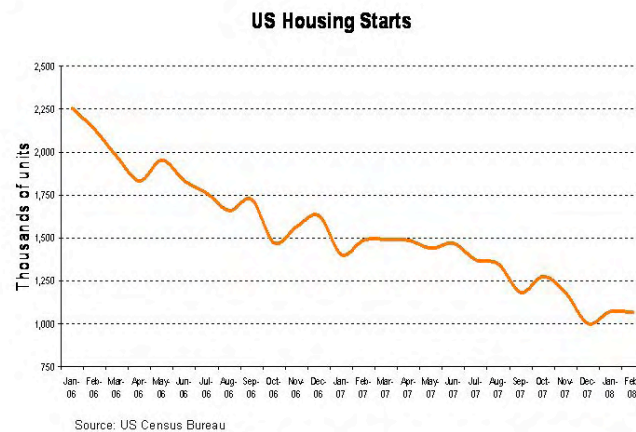
The United States is our most dominant market particularly for solid wood producers comprising 93% of lumber exports, 98% of panel exports and 60% of pulp exports values.

Market Forces

Slide 5

Drivers

Solid wood (lumber and panels) is primarily driven by the construction activity.



As a result the overall economic health of importing countries (particularly the US) is important to Alberta producers. Let's take a look at some of the key market forces impacting the forest industry.

For solid wood producers (lumber and panel products) demand is driven largely by the construction activity in the US. There isn't much that can be said here other than let's hope that we hit bottom soon.

Drivers – con't

Pulp production is driven by paper production and other demand dynamics:

- Demand is shifting outside the traditional North-American markets, with Asian and South-American countries demanding a larger share of the global output.
- Canada is one of the world's largest market pulp suppliers but with the entrance of the low-cost South-American producers, capacity is moving closer to the new markets, in the southern hemisphere.
- Short harvest cycles and significant capital investments (economies of scale) have shifted competitive advantage toward South American production (Brazil, Chile, Uruguay).

On the pulp side, demand for paper is shifting outside of traditional North American markets with Asian and South American countries demanding a larger share of global output.

Canada is still one of the world's largest market pulp suppliers but we face competition from low-cost South American producers who are much better positioned to supply emerging markets. Some of these low cost producers have mills twice the size of even our largest facilities.

Fortunately for Alberta producers production capacity reductions have mostly come from closure of inefficient mills in Eastern Canada.

Pricing – lumber

The increase in the average exchange rate between 2006 and 2007 impacted revenue in Alberta's lumber sector by approximately \$50.5 million.



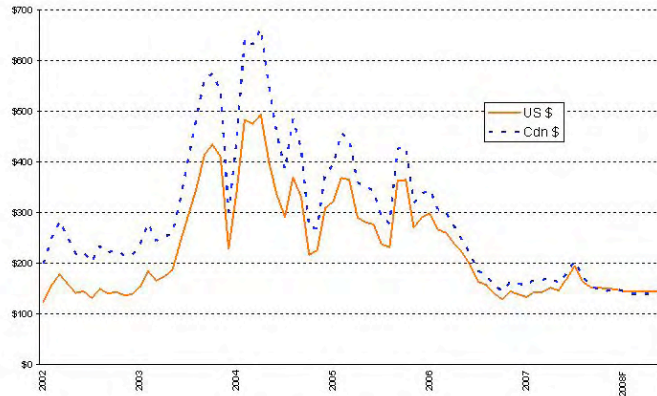
If we look at pricing, in this case lumber we see a pattern that follows the sharp decline in US housing activity.

However, the impact of the strengthening Canadian dollar was dramatic. In this graph the solid line is pricing in US dollars and the dotted line represents pricing in Canadian dollars.

The exchange rate alone between 2006 and 2007 resulted in an estimated \$50 million impact to the Alberta lumber sector.

Pricing – OSB

The increase in the average exchange rate between 2006 and 2007 impacted revenue in Alberta's OSB sector by approximately \$26.5 million.

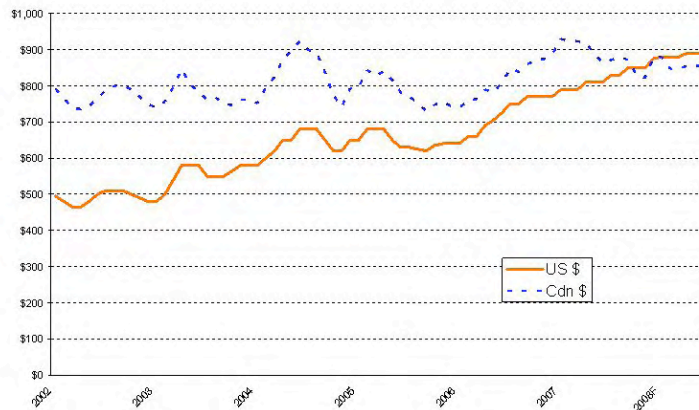


Source: Random Lengths, OSB 7/16", Prices Net f.o.b. Mill, Western Canada

For Alberta's OSB producers, prices today are a far cry from those experienced in 2004. An exchange rate impact for Alberta OSB producers between 2006 and 2007 is estimated at \$26.5 million.

Pricing – pulp (NBSK)

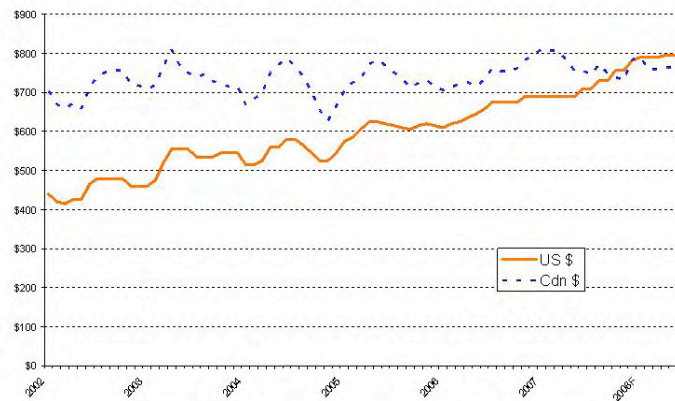
The increase in the average exchange rate between 2006 and 2007 impacted revenue in Alberta's pulp sector by approximately \$85.7 million.



Source: Pulp & Paper Week, NBSK delivered in East

On the pulp side, prices for both hardwood and softwood have increased since 2006. This slide represents softwood pulp.

Pricing – pulp (NBHK)



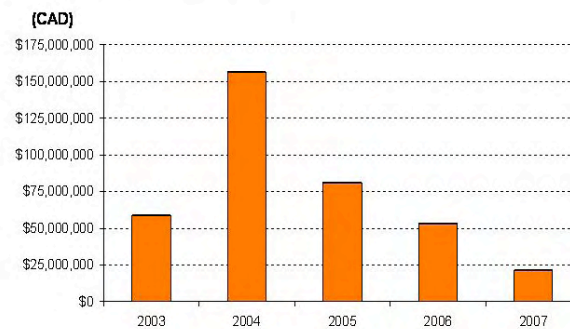
Source: Pulp & Paper Week, NBHK delivered in East

Hardwood prices show similar patterns.

However, when exchange rate impacts are considered recent gains have been effectively off set. The exchange rate impact between 2006 and 2007 is estimated at \$85 million for Alberta pulp producers.

Stumpage

Stumpage fees collected reflect the market conditions.



Source: ASRD

Consistent with the current market conditions the value of stumpage in Alberta has also dropped significantly from a high of approximately \$160 million in 2004 to less than \$25 million last year.

Stumpage as a cost to industry has gone down, however other costs have increased.

Slide 12

Cost Drivers

- ▶ Transportation and manufacturing costs have increased significantly since 2004.
 - Inflation: annual rate above national average.
 - Labour: highest hourly wage rate in Canada; Alberta still plagued by a chronic shortage of skilled labour.
 - Energy: Alberta is the only deregulated market in Canada; higher costs than other provincial forestry jurisdictions.
 - Transportation: trucking prices have outpaced inflation in the past three years.
 - Taxes: no longer the lowest in the country.

Ongoing discussions with Alberta industry leaders have identified several cost factors that have increased manufacturing and transportation costs in Alberta by 25% since 2004.

Alberta's inflation rate (3.6%) is above the national average (2.2%).

Labour rate increases and chronic skilled labour shortages have impacted the forest industry at a time when they can least afford it.

Energy costs have also increased in Alberta – Canada's only deregulated energy market.

Forest product producers rely heavily on truck transport to move logs to mills, product markets and rail facilities. Transport trucking costs have risen sharply over the past three years.

Finally, Alberta's total combined taxes are no longer the lowest in the country.

Other Market Forces

► Softwood Lumber Agreement

- Under Option A, Alberta companies have been paying export taxes since the SLA was signed.
- The agreement was supposed to bring about certainty for the forest industry but it is argued that the economic impact has been worse than the effects of a continued trade dispute.
- Anti-circumvention provisions have narrowed the solution space in application of government policy and practices.

► Mountain Pine Beetle

- Six million hectares of pine forest are susceptible to MPB in Alberta*.
- Management of MPB has had cost implications for both industry and government.

* Source: ASRD

Managed trade under the Softwood Lumber Agreement has impacted Alberta producers. Under the SLA lumber producers shipping to the US have been effectively paying export taxes since the SLA was signed. Many in the industry would agree they might have been better off without agreement, but that debate is better left for another forum.

At a time when industry and government are seeking creative alternatives to address challenges, Anti-circumvention provisions in the SLA have restricted the solution space.

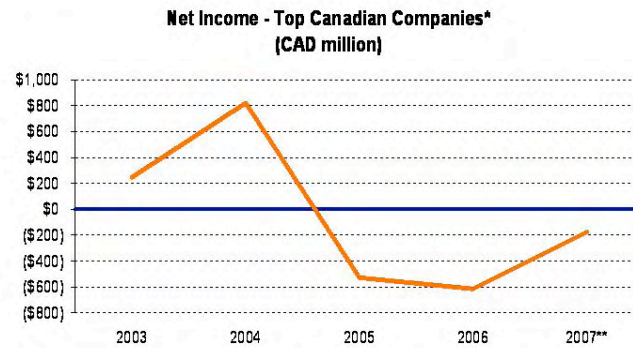
Another force impacting markets is the Mountain Pine Beetle that has devastated BC Interior pine forest and over 6 million hectares of pine forest in Alberta are susceptible. Government and industry have worked together and are sharing the burden to manage the pine beetle in Alberta.

Industry Performance

Slide 14

Canadian Financial Performance

Excluding the one-time gain from softwood lumber duties refunded in 2006 and non-cash foreign-exchange gains in 2007, the Canadian forest industry has been unprofitable for the past three years.



*Combined results for the 12 Canadian public companies included in the PwC Global Top 100

**2007 results are for the 9 months ended Sept 30, 2007 (except Tembec - year ended Sept 29, 2007)

Truly, circumstances have come together and the Canadian industry is struggling to survive through what many have called the perfect storm.

Excluding the one-time gain from softwood lumber duties refunded to the Canadian industry in 2006 and non-cash gains from US denominated debt, the Canadian industry has been unprofitable since 2005.

The results in 2007 are presented based on the first 9 months of the year. We are currently compiling final 2007 figures as part of our Global Survey results due next month.

Canadian Financial Performance – con't

- ▶ Canadian companies' Return on Capital Employed (ROCE*) was lower than any other region in 2006.
- ▶ Results for 2007 are not anticipated to change significantly.

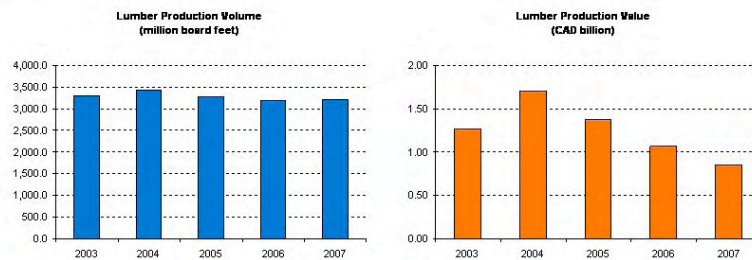


	2006	2005
Canada	2.0	4.5
USA	5.4	5.5
Europe	4.9	3.5
Japan	3.9	3.6
Emerging Markets	7.9	7.6
GLOBAL TOP 100	5.1%	4.9%

* Excluding unusual items

Looking at Return on Capital Employed we see from this table (taken from our 2006 industry survey) that Canadian Companies ROCE in 2006 was the lowest of any region. Based on preliminary earnings figures, ROCE is not anticipated to change significantly in 2007.

Alberta Companies Production Volume and Values - Lumber



Source: AFPA

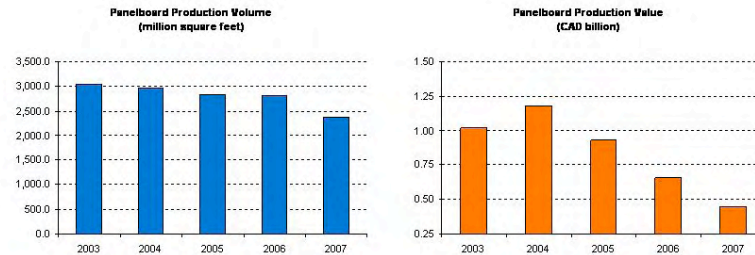
- ▶ While production volume remained relatively stable over the past five years, the value has decreased by 20%.

Looking at production volumes and values for the Alberta industry some interesting trends and relationships are beginning to emerge. Over the past five years

lumber production in Alberta has been relatively stable even in the face of a 20% decline in product value.

Slide 17

Alberta Companies Production Volume and Values - Panels



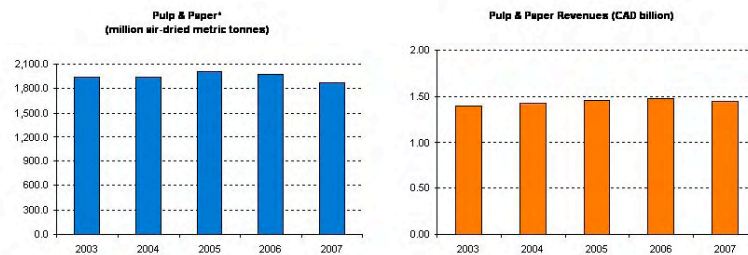
Source: AFPA

- ▶ Since 2004 production volume has decreased by approximately 20%, while production value decreased by 62% over the same period of time.

Production volumes in Alberta's panel sector have decreased by approximately 20% while experiencing a massive 62% decrease in value since 2004.

Slide 18

Alberta Companies Production Volume and Values – Pulp & Paper



Source: AFPA

- ▶ Since 2004 production volumes and values remained relatively stable.
- ▶ The pattern would have been different if it were not for the recent price increases for the pulp sector.

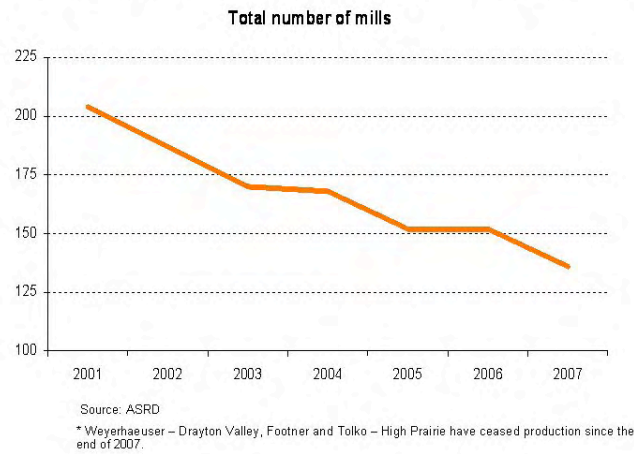
In contrast, Pulp and Paper production has remained stable in terms of both production volume and value – a testimony to recent positive price trends.

Industry Impacts

Slide 19

Consolidation

- ▶ In 2001 there were in Alberta 188 lumber mills, 7 pulp mills and 9 panelboard mills.
- ▶ At the end of 2007 there were 118 lumber mills, 7 pulp mills and 9 panelboard mills*.



Performance has impacted the industry and the communities in which they operate.

This graph represents all mills operating in Alberta. However, since 2001, consolidation has occurred in the lumber sector with the number of lumber mills in shrinking from 188 to 118.

Curtailments and closures have also impacted the solid wood industry in Alberta.

Curtailments and Closures

- ▶ 10 sawmills are operating at reduced capacity.
- ▶ 5 sawmills were closed permanently or indefinitely.
- ▶ 1 panelboard operation is operating at reduced capacity.
- ▶ 4 panelboard operations were closed permanently or indefinitely.

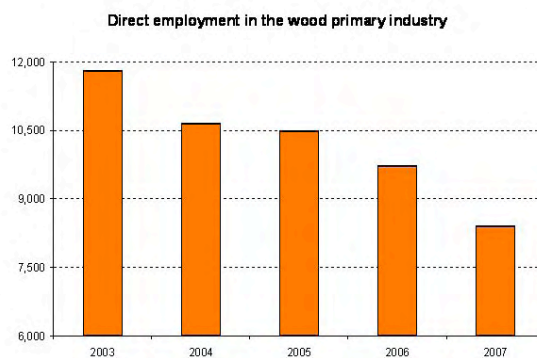


Curtailments and closures over the recent past have impacted 15 sawmill operations (10 mills reducing capacity and 5 mill closures) and 5 panelboard operations (1 mill reducing capacity and 4 closures).

This image and the statistics were provided by the Alberta Forest Products Association.

Employment

Each direct job offered by the primary forest industry generates in average 1.9 indirect and induced jobs. Since 2003, direct employment opportunities followed a downward trend.



Source: ASRD, PwC

These curtailments and closures have resulted in 3000 direct job losses and a further estimate of 1.9 indirect and induced jobs are lost with every direct job loss in the forest sector.

Summary

- ▶ Demand and prices have decreased for solid wood products.
- ▶ Harvest and production levels are beginning to decrease.
- ▶ Industry costs have increased.
- ▶ Strengthened Canadian dollar continues to erode profitability.
- ▶ Mills are reducing capacity temporarily and/ or permanently.
- ▶ Employment levels are decreasing.

To summarize,

- Demand and prices have decreased for solid wood products.
- Harvest and production levels related to solid wood products are starting to decrease in response to weak market conditions.
- Industry costs have increased.
- The strengthened Canadian dollar continues to erode profitability.
- Mills are reducing capacity through curtailments and closures and employment levels have correspondingly decreased.

Going Forward

Slide 23

Going Forward

- ▶ Capacity will be reduced in response to market challenges (particularly in solid wood).
- ▶ Medium to long-term, market fundamentals should return to a more favourable state (recovery from housing crisis?).
- ▶ Those who can survive will be positioned well for the turnaround.
- ▶ Commodity producers will need to be best-in-class (costs and customer service).
- ▶ Niche players will survive by servicing smaller markets and/ or markets exempt from the SLA.
- ▶ MPB may create fibre supply issues.
- ▶ Alberta needs to regain our innovation advantage.
- ▶ Surplus capacity may help stimulate alternative uses for Alberta fibre.

Going forward, market forces will continue to shape Alberta's industry.

Capacity will continue to be reduced in response to the market challenges facing the industry – particularly in solid wood. Medium to long-term, market fundamentals should return to a more favourable state. Those that can survive will be positioned well. In the meantime, commodity producers need to be best in class in terms of cost leadership and customer service.

Niche players will survive by serving smaller markets and producing products that fall outside of the SLA.

Mountain Pine Beetle is a risk that needs to be watched diligently.

It was not that many years ago that Alberta industry and government embarked on a concerted effort to utilize hardwood resources by developing a strong OSB and hardwood pulp industry. Alberta needs to regain an innovation advantage.

Perhaps surplus capacity could help stimulate alternative uses for Alberta fibre.

CEO Perspectives

- ▶ **Getting back to basics:** Many CEOs are focusing on the development of simpler, more flexible business models, improvement in operating efficiency and reassessment of their value propositions.
- ▶ **Controlling Costs:** Most CEOs are trying to reduce input costs.
- ▶ **Demonstrating Sustainability:** The industry is at the forefront of the drive to become more sustainable but it needs to publicize its achievements more widely.
- ▶ **Looking for Leadership:** CEOs are looking for leaders who will show the way in areas like capacity reduction, price setting and consolidation, but companies are struggling to recruit the right talent.

In closing, I thought I would leave you with some perspectives from our 2008 CEO Perspectives report. This is the second edition that provides insight into what forest, paper and packaging leaders around the world are doing to meet challenges not dissimilar to those facing Alberta's industry.

Four key trends were identified:

- Many of the CEOs are getting back to basics by focusing on the development of simpler, more flexible business models, improvements in operating efficiency and reassessment of their value propositions.
- Most CEOs are also trying to reduce their major input costs, such as fibre and energy, but real concerns remain about overcapacity and lack of supply discipline.
- The industry is at the forefront of the drive to become more sustainable. But it needs to publicize its achievements much more widely.
- CEOs are also looking for leaders who will show the way in important areas like capacity reduction, price setting and consolidation. But even if clear leaders emerge, finding the right people to pilot the industry in the future could prove difficult, since many companies are struggling to recruit the right talent.

Thank you again for the invitation to speak with you this morning.

Questions for Ray Luckow

Question: You showed a graph of returning investments at 2% in Canada versus an average 5.5% for the other countries. Was that for forestry or for all industries?

Ray Luckow: For forestry.

Question: So you were comparing forestry in Canada to forestry in other countries?

Ray Luckow: Correct

Question (cont.): Why is that? Why is it so low for Canada and so high for other countries, especially the emerging markets, which are up at 7% or 8%? You mentioned currencies. Are there other reasons?

Ray Luckow: I think generally it's a tough place to make money. It's hugely capital intensive, markets have not been strong worldwide. Companies are searching for solutions. In Canada, there aren't really dominant players that have that much market power that can influence prices and influence capacity. It's still very much a fragmented industry in this country, and in other parts of the world.

Question (cont.) On that issue, looking at return on capital: compared to the US, does any of it have to do with the log supply? Here it's the provincial government. You can reduce capacity, or you can reduce capital utilization and stay in business more easily in Canada than in the US. Are the numbers higher for the US because, if you aren't returning on capital in the US, you're out of business?

Ray Luckow: In Canada it's relatively easy to get in, and a lot harder to get out. The barriers to get out are different than they would be in the US. The basic recipe is: if you've got fibre, capital, and markets, you're in the business. It's a little more difficult, certainly, because of public land ownership differences here in Canada - it makes exiting the business a lot more difficult. Companies really struggle with that and they will push forward at times when their counterparts in the US might curtail production.

Slide 1

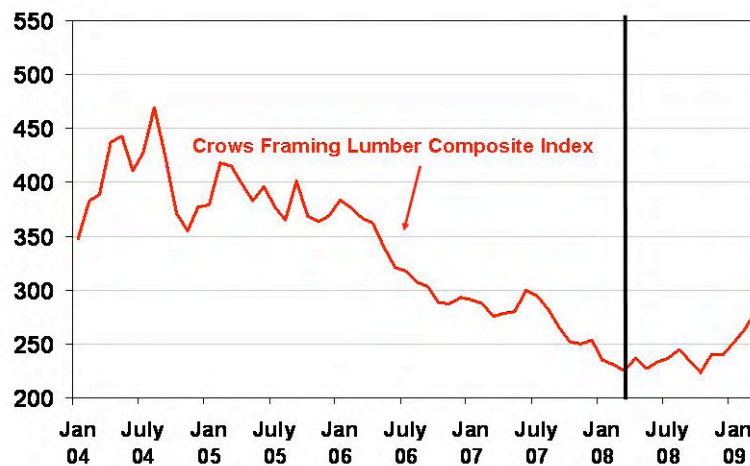
North American Forest Products Markets: What Lays Ahead?

Paul Jannke
Greg Lewis
Kurt Schaefer

April 2008

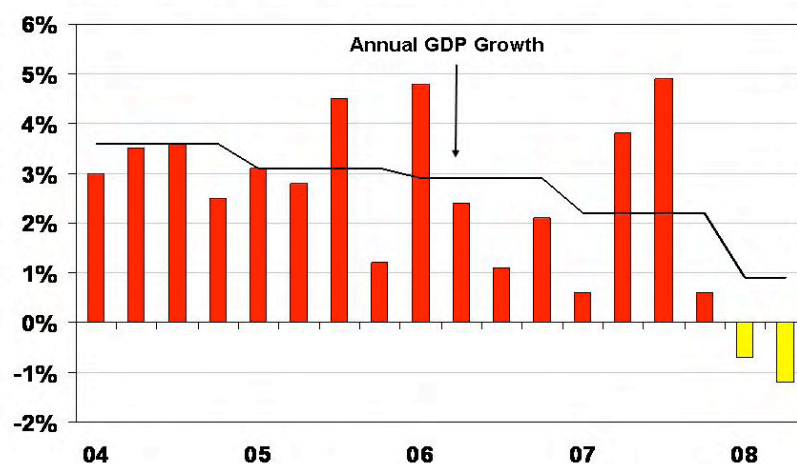
Slide 2

Lumber Markets Will Remain Weak in 2008



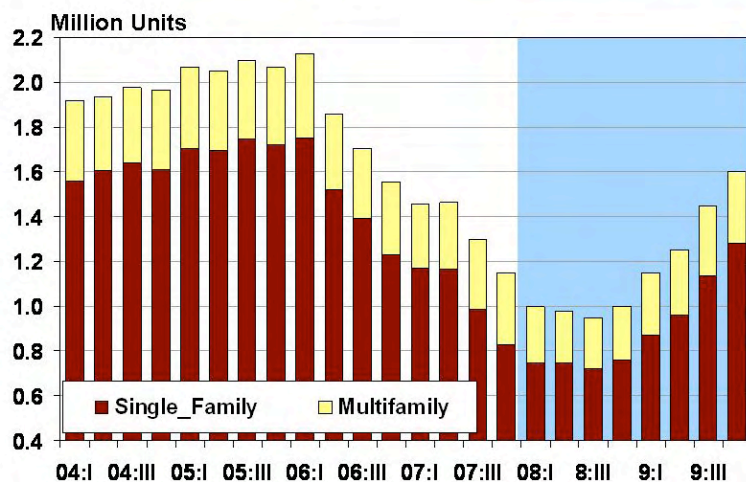
Slide 3

The U.S. Economy Is In A Recession (Real GDP Growth, Annualized Percent Change)



Slide 4

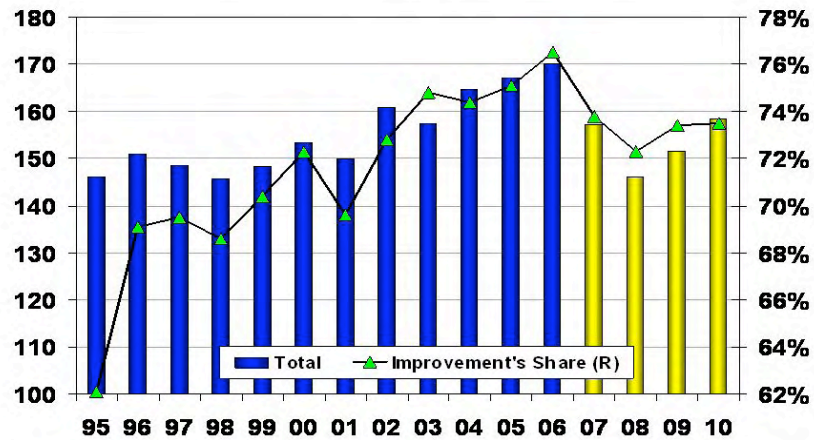
Housing Starts Will Remain Weak Through Much Of 2009



Slide 5

Repair and Remodeling Expenditures Will Fall After Reaching Record Levels in 2004-06

Billion \$2000



Slide 6

Major US End-Use Markets for Wood Products

	2007	2008	2009	2010
Housing Starts (Mil.)	1.34	0.98	1.36	1.80
% Ch.	-25.8	-26.9	38.7	32.1
R&R (Bil. 2000\$)	157.2	146.1	151.4	158.5
% Ch.	-7.6	-7.1	3.7	4.6
Nonres. (Bil. 2000\$)	142.0	139.1	152.1	162.2
% Ch.	-0.4	-2.1	9.4	6.6
Ind. Prod. (2000=1)	1.13	1.13	1.16	1.21
% Ch.	1.9	-0.1	2.3	4.5

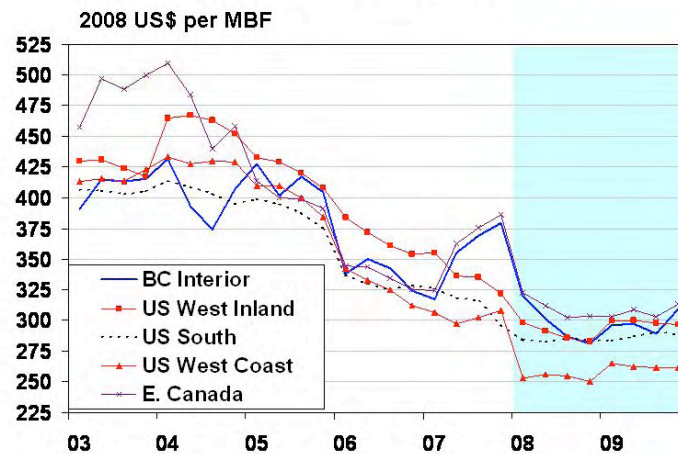
Slide 7

Total Demand for North American Softwood Lumber (BBF)

	2007	2008	2009	2010
Domestic Consumption				
US	52.8	46.0	53.7	62.3
Canada	10.8	10.8	11.3	11.8
Offshore Trade				
Imports	1.7	1.6	1.8	2.6
Exports	3.2	3.2	3.1	2.7
Total Demand	65.0	58.4	66.3	74.1
% Change	-10.4%	-10.2%	13.5%	11.8%

Slide 8

Lumber Costs Have Fallen Product Adjusted Costs Del. Chicago



Slide 9

Canadian Costs Will Remain Relatively High

US\$ per CN\$

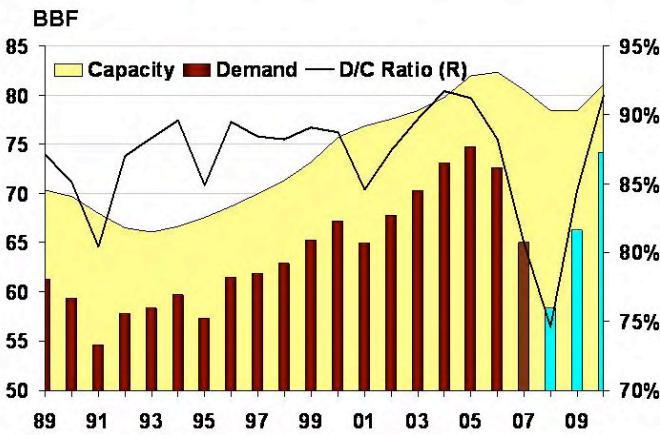


Slide 10

North American Softwood Lumber Capacity (BBF)

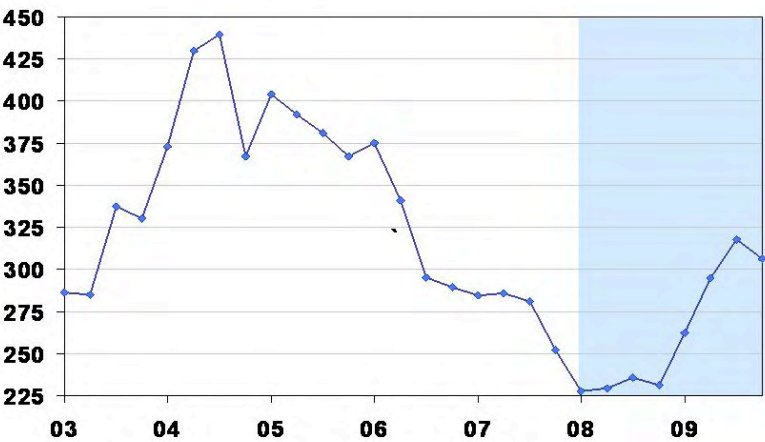
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
US				
Coast	12.4	12.0	12.0	12.5
Inland	7.3	6.5	6.3	6.4
South	19.7	19.3	19.3	20.2
Other	3.9	3.8	3.8	3.9
Canada				
B.C.	19.5	19.6	19.7	20.3
Other	17.8	17.1	17.2	17.7
Total	80.6	78.4	78.4	81.0

North American Softwood Lumber Demand/Capacity



Lumber Prices Will Remain Weak In 2008

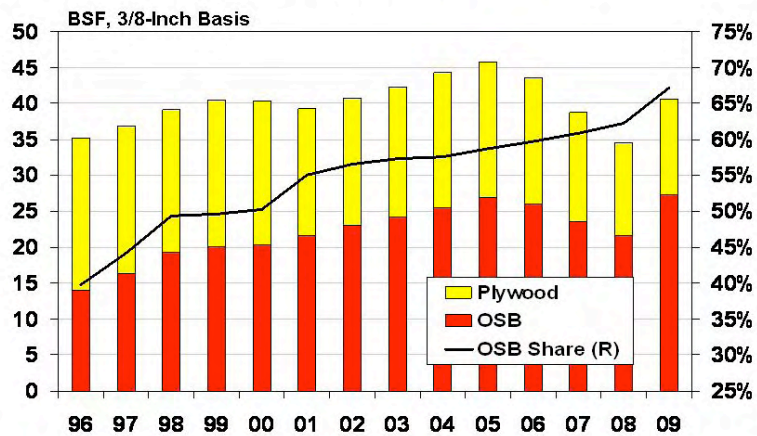
Crows Framing Lumber Composite Index



Structural Panel Markets in 2008-09

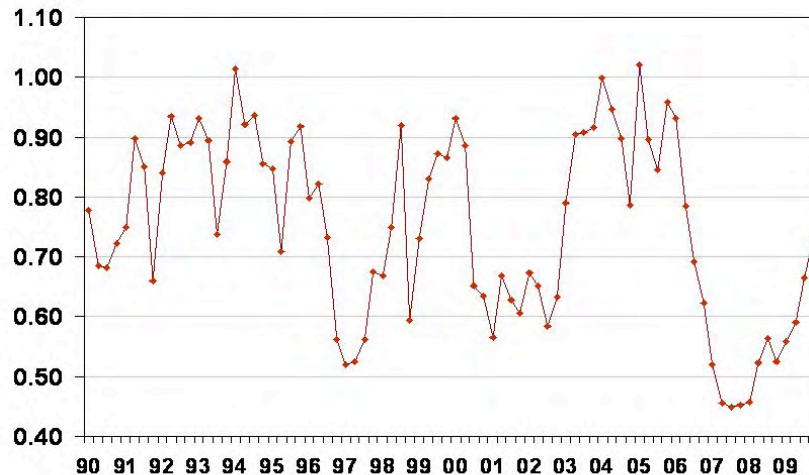
- ▶ Housing Cycle Will Drive Panel Demand
 - Very Weak 2008
 - Recovery in 2009
- ▶ OSB Capacity and Market Share Growth Will Force Out Plywood
- ▶ MACT Will Likely Force Out Capacity (Mainly Plywood)
- ▶ Positive OSB Profitability Will Return In The Second Half of 2009

Stronger Housing Will Cause OSB Demand to Improve in 2009



Price Spread Will Narrow As Markets Rebound

Ratio of 7/16-Inch OSB to 1/2-Inch 3-Ply SYP, US South (Westside)



Key Assumption: Significant Plywood Closure Will Come as OSB Increases

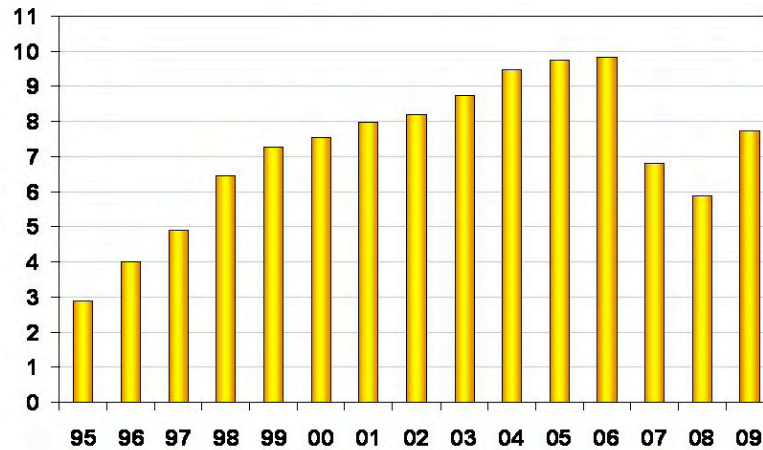
Change in Capacity - BSF, 3/8-Inch Basis

	OSB	Ply	Total
2006	0.68	-0.35	0.33
2007	1.11	-1.58	-0.48
2008	-0.42	-1.86	-2.28
2009	1.26	-1.13	0.13

Slide 17

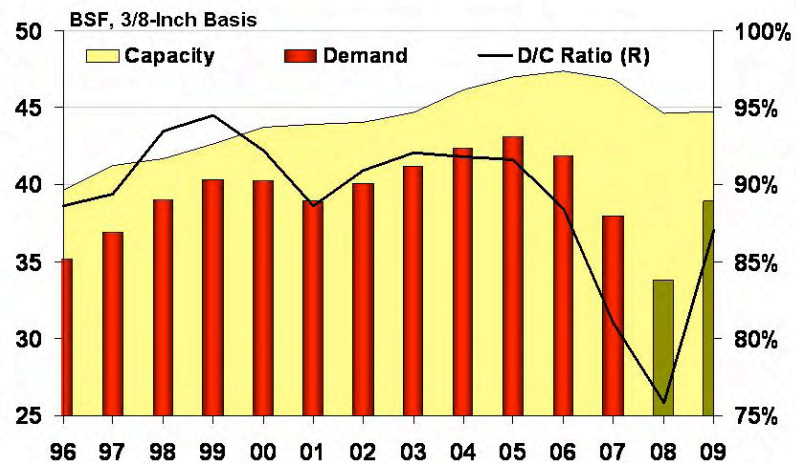
CA OSB Shipments to the US Have Plunged

BSF, 3/8-Inch Basis



Slide 18

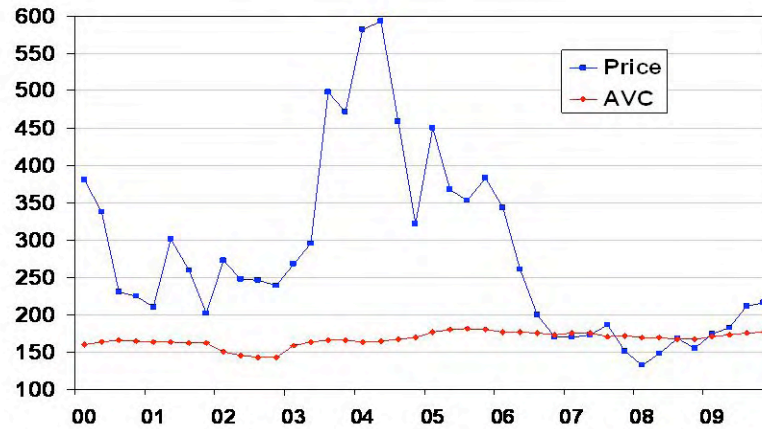
North American Structural Panel Demand/Capacity



Slide 19

Western Canadian OSB Prices Will Remain Extremely Low

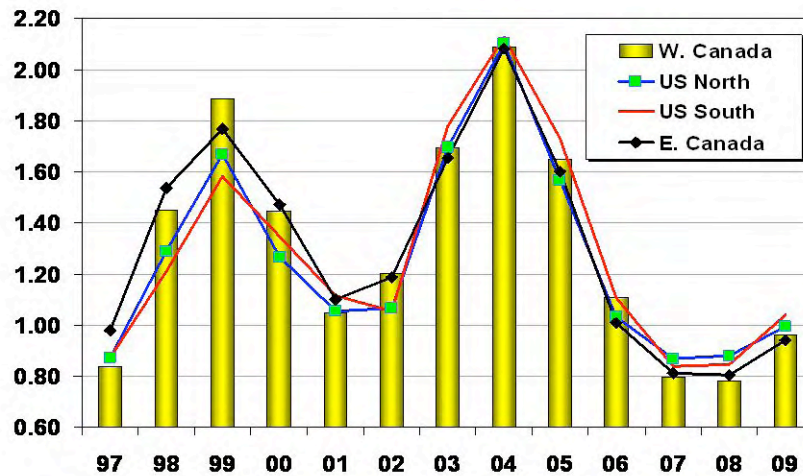
7/16-Inch, CAD/MSF, FOB Mill



Slide 20

OSB Profitability Will Struggle to Get Back To Positive Territory in 2009

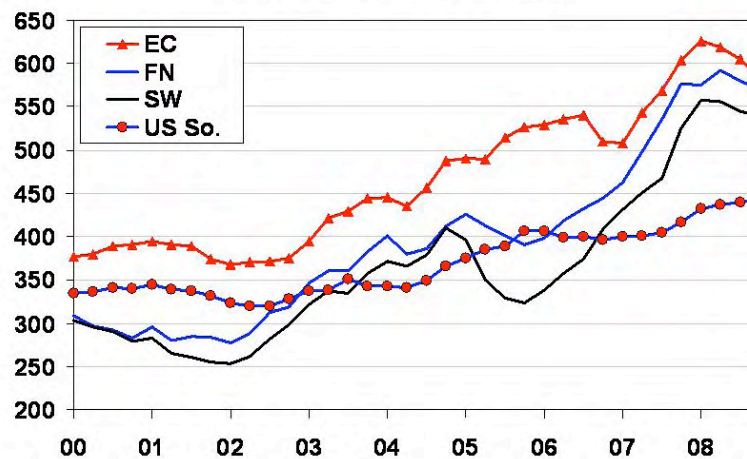
Mill Realization/Average Total Cost

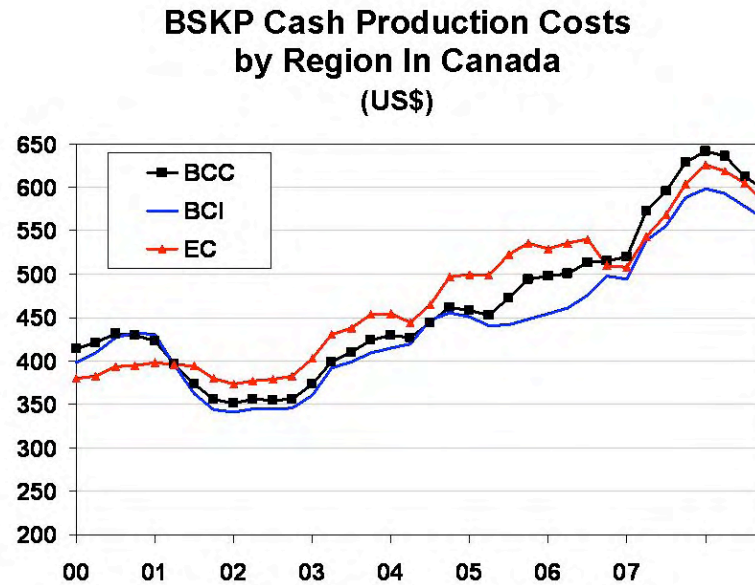


Market Pulp: How Cost Developments Are Affecting Canadian Producers

Kurt Schaefer
VP, World Fiber
May, 2007

**Bleached Softwood Kraft (BSK) Pulp
Average Variable Production Costs
(Delivered N. Europe, US\$)**



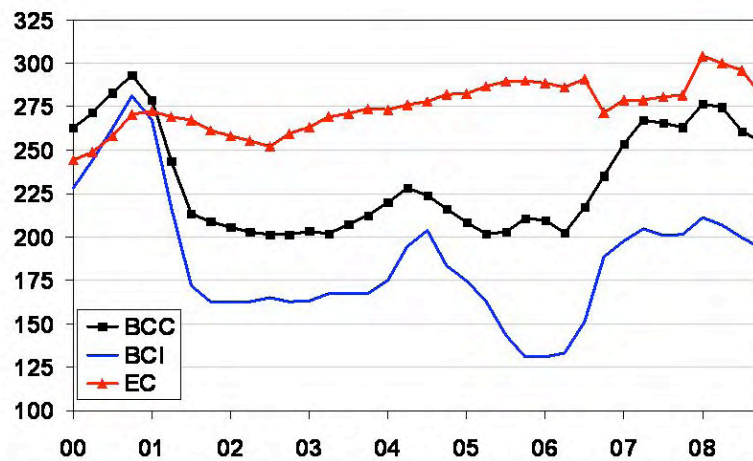


What Factors Are Driving BSK Production Costs Higher, and What Are the Implications for Prices?

- ▶ **Wood Costs**
 - Biomass wood demand
 - Reduced sawmill activity esp. in Canada
- ▶ **Energy Costs**
- ▶ **Transportation Costs**
- ▶ **But Most Importantly, Exchange Rates**

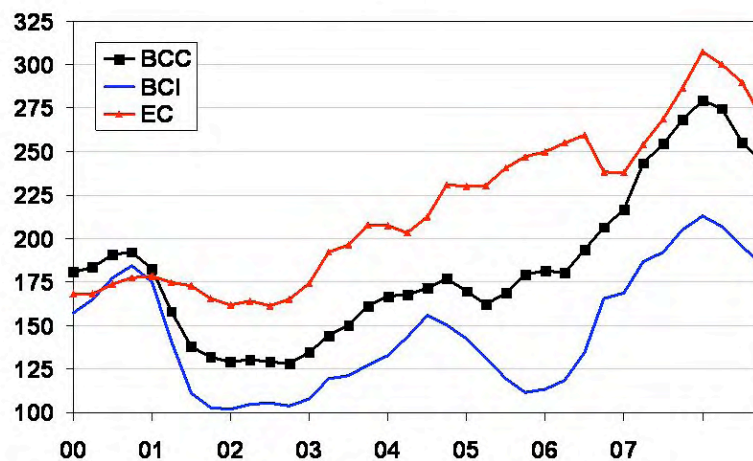
Slide 25

Canadian BSK Wood Costs Per Tonne of Pulp (C\$)



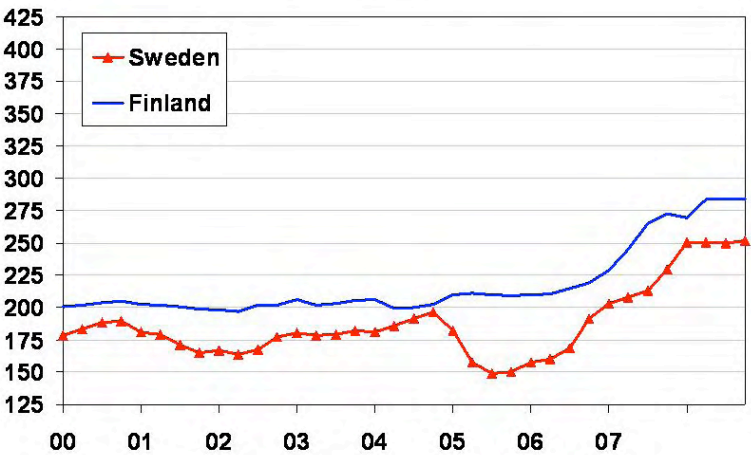
Slide 26

Canadian BSK Wood Costs Per Tonne of Pulp (US\$)



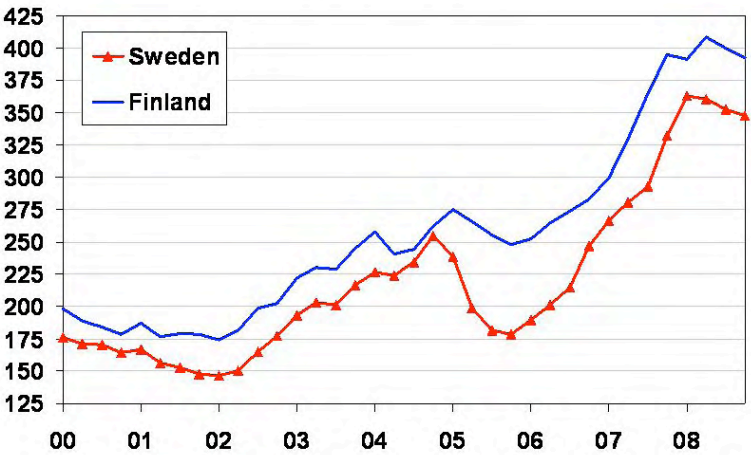
Slide 27

**Nordic BSK Wood Costs Per Tonne of Pulp
(Euros/Tonne)**



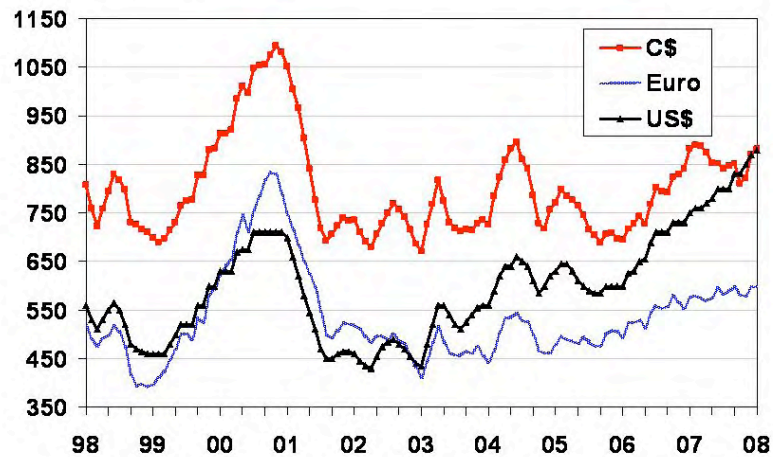
Slide 28

**Nordic BSK Wood Costs Per Tonne of Pulp
(US\$/Tonne)**



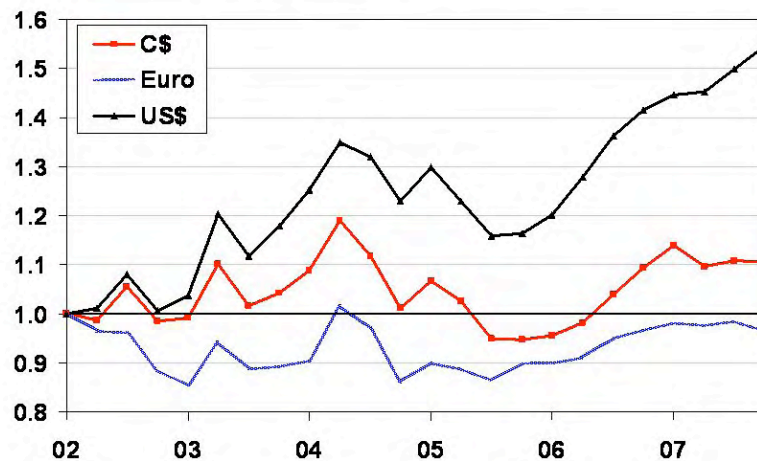
Where Is “Supercycle” in NBSK Prices?

Currency Units per Tonne, Delivered N. Europe

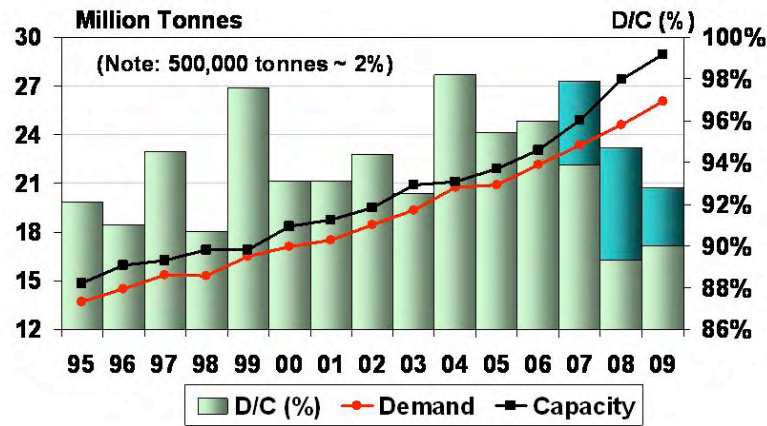


Where Is “Supercycle” in NBSK Prices?

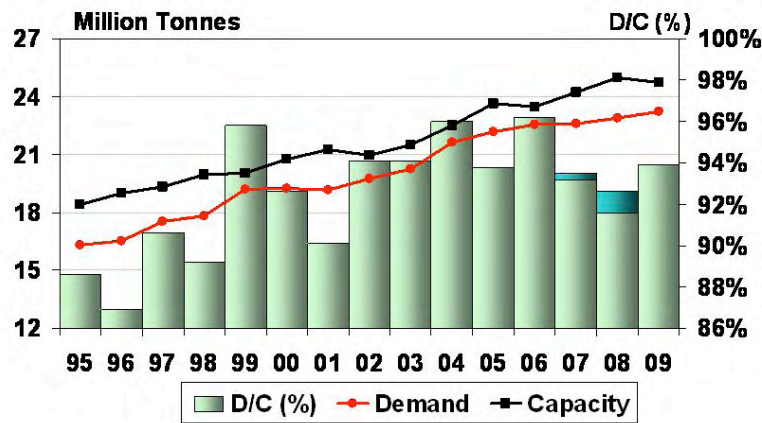
Inflation-Adjusted Index, 1Q2002 = 1.0



World Market BHK Demand and Capacity



World Market BSK Demand and Capacity



"Shipping Forest Products in North America: CN'S Perspective"

Slide 1

CN Trade Relations Forum

April 16th, 2008

Andrew Fuller

Director of Marketing



Responding to the Demand of
the Forest Products Industry

Slide 2

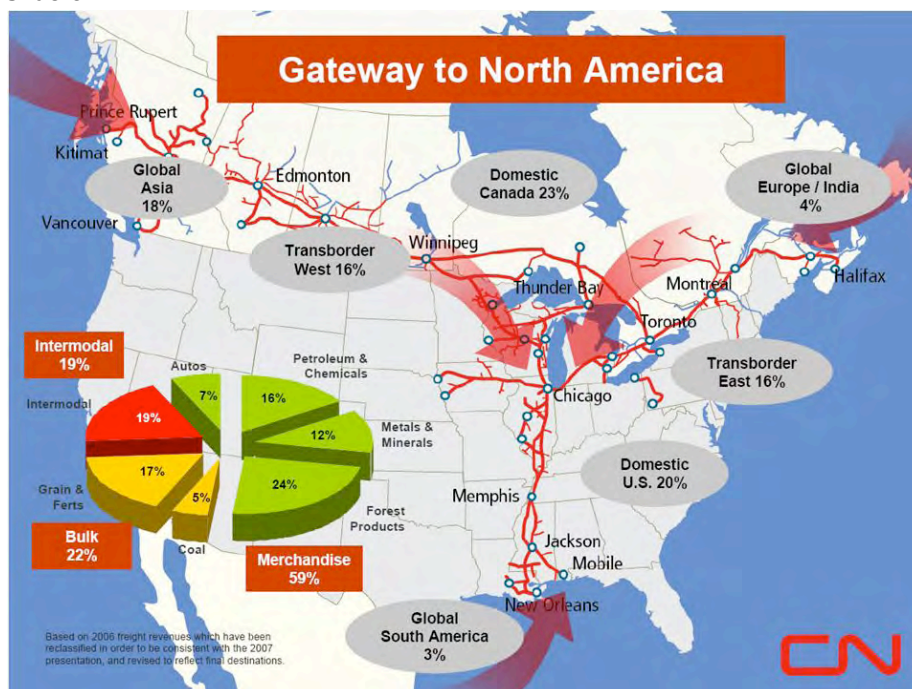


- Employs approx. 21,685 people in Canada and the United States.
- 20,264 route-miles of track
- Earned CDN\$7.9 billion in revenue in 2007
- Stocks trade on the New York and Toronto stock exchanges
- Positioned as most efficient operator in North America with highest velocity and on time performance in the industry



- Originates approximately 85% of traffic, allowing the company to capitalize on service advantages, & efficient asset utilization
- In addition to railroad transportation, CN's franchises offer customers an integrated range of service that include trucking, trans-loading, customs brokerage and freight.

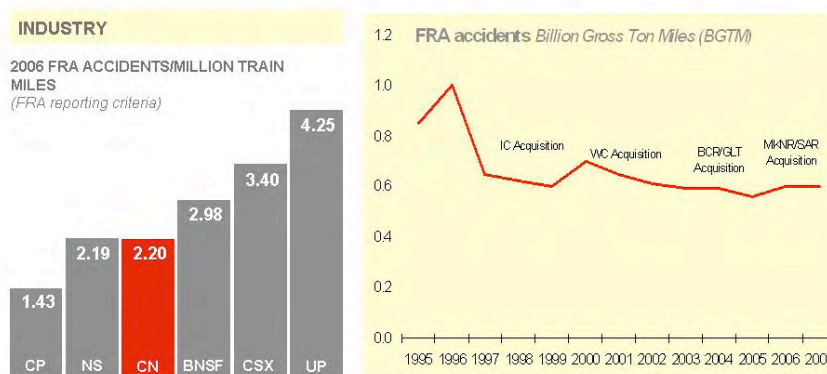
Slide 3



Slide 4

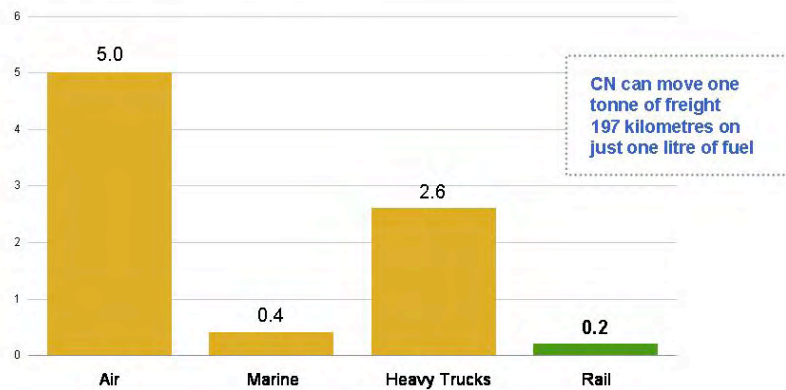


Continuing focus on safety



Shipping by rail is energy efficient

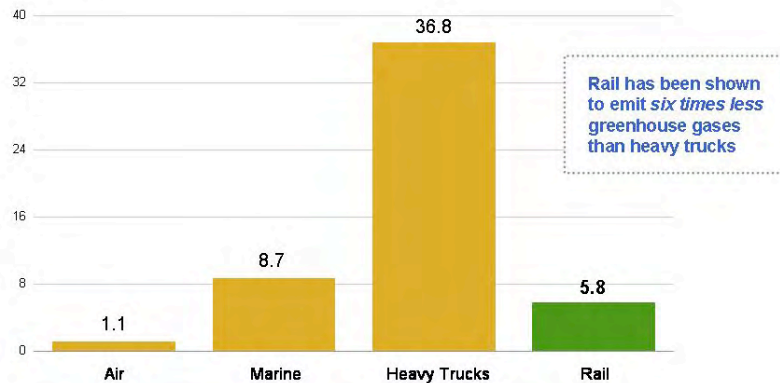
ENERGY INTENSITY OF FREIGHT MODES, 2004
Megajoules / Tonne-kilometre



Source: National Resources Canada, Office of Energy Efficiency, Energy Use Data Handbook, August 2006.

Shipping by rail reduces greenhouse gases

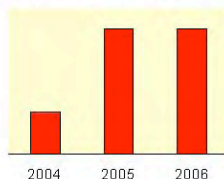
GHG BY TRANSPORTATION MODE
Mt of CO₂e



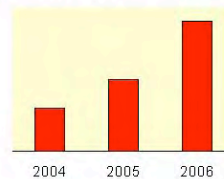
Source: National Resources Canada, Office of Energy Efficiency, Energy Use Data Handbook, August 2006.

Velocity creates Capacity

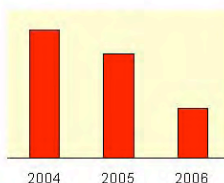
Trip Plan Performance



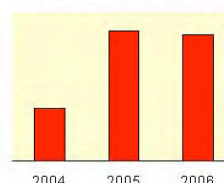
Car Velocity Car Miles Per Car Day



Locomotives



Carloads (Thousands)



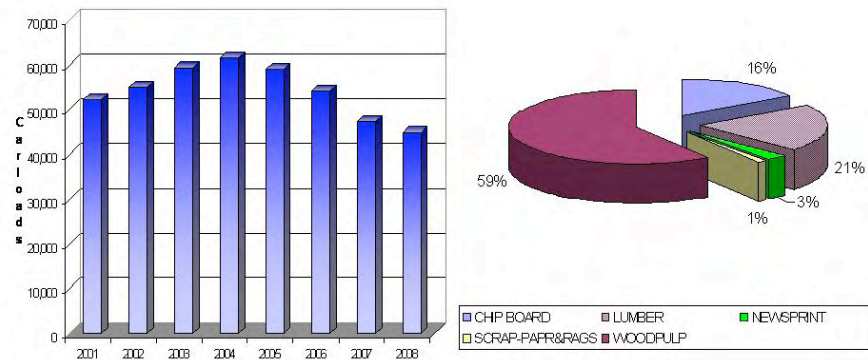
Raising the bar

Market Overview for FP...

- 1.0 to 1.1M Housing Starts
 - Well below expected 1.50 "bottom". Average 59% peak to valley since 1970
 - Bottom out at 11 months supply.
 - 10% of homes with negative equity, if prices drop 30%, 45% are negative
- Segments
 - Lumber: Housing off 25%, Consumption down 16% (50.9 bbfm)
 - Panel: Consumption off by 11% to 37.9 BSF, North is losing share to South
 - Secular reduction in newsprint demand – down another 10% to 9M tonnes. Holding steady globally > 48M
 - 20% reduction in newsprint advertising plus 4% to 8% due to web width
 - Pulp: NA growing 5% CAGR
 - Woodchips will continue to follow Lumber production, Pellets expanding with Pinnacle



Alberta



Strong presence in Alberta

CN will evolve to take advantage...

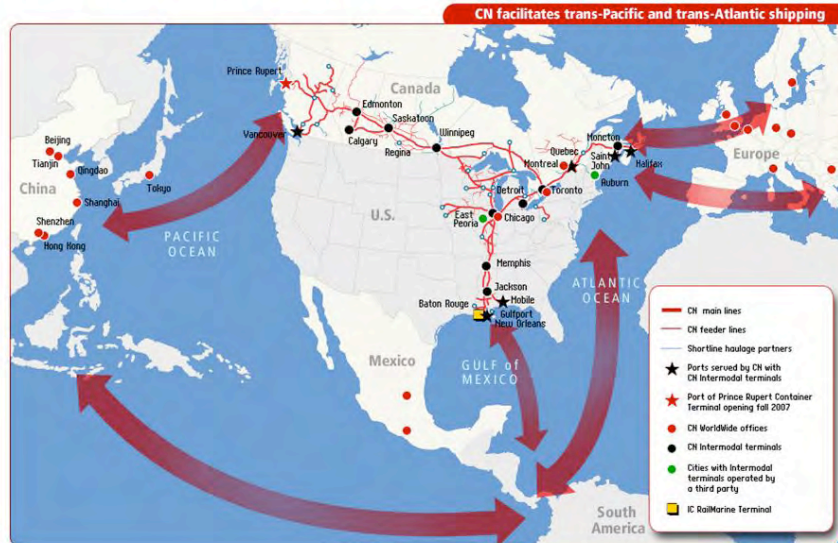
- Recognize the world is changing
 - Developing countries now have incredible potential
 - Traditional North-South economies are changing
- CN has & will continue to enhance its product to drive growth



With Change comes Opportunity...

Slide 11

International Focus



Slide 12

Intermodal Service

- Wholly owned subsidiary of CN rail.
- ***We Deliver!*** over 1,000 loads a day.
- Industry leading safety record.
- One of Canada's largest full load carriers.
- Fleet of 5,000+ containers & 6,000+ chassis & 1,500+ DRP boxes / week.
- Over 450 drivers in Canada covering all major metropolitan centres.
- State of the art centralized dispatch with live wireless communication.



Network covering 70% of US Population

Slide 13

CN Worldwide North America



- Ground Transportation
- US Retail Trucking
- Canadian Retail Trucking
- Import-Export Drayage
- Warehouse & Distribution
- Trans-loading Services
- Transportation Management
- Customs Broker
- Bulk Materials Management
- Aquatrain
- Great Lakes Vessels

Layered product offering

Slide 14

The image shows the interior of a large industrial warehouse. Tall stacks of large, cylindrical rolls of material, likely paper or fabric, dominate the space. A yellow forklift is visible in the center, moving through the aisles. The ceiling is high with exposed steel beams and industrial lighting. In the top right corner, the CN Worldwide logo is visible. Three white text boxes with red and black text provide key statistics:

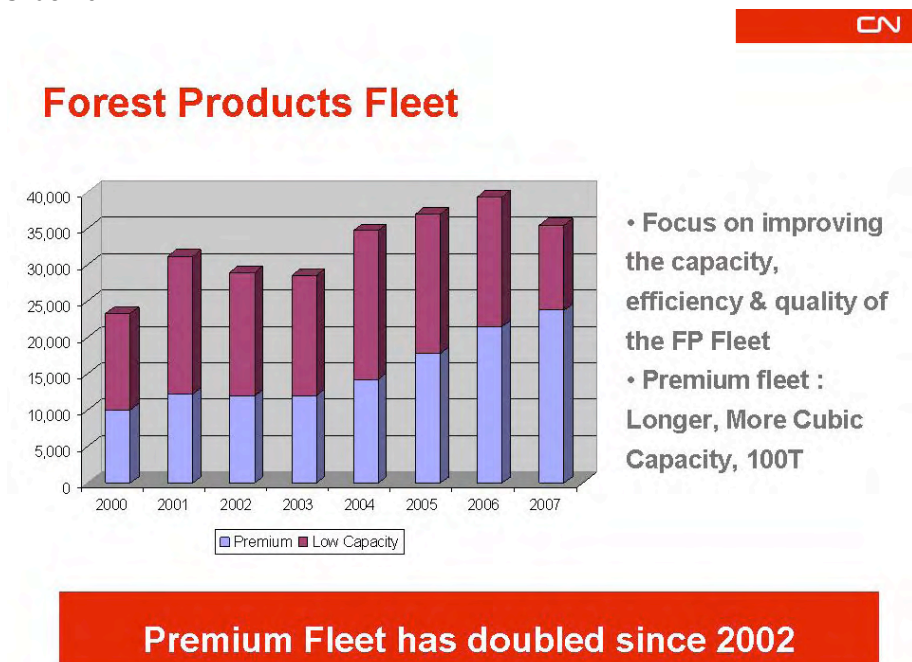
- 50+** owned or leased facilities in North America
- +1 million** sq. ft. of warehouse space owned or leased
- 67 million** tons of freight handled in 2007

A green banner at the bottom left of the image contains the word **Distribution** in white text.

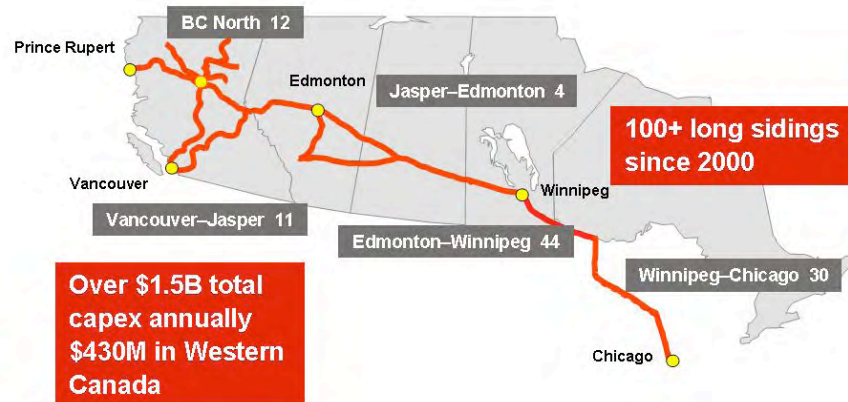
Slide 15



Slide 16



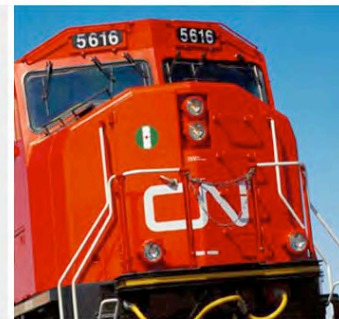
Targeted, balanced investments



IN CLOSING

Meeting FP Demands

- Focused on safety & the environment
- Investing in capacity
- Creating capacity through velocity, premium fleets & improved fleet utilization
- Providing new options & capacity with new Port options, Intermodal & CNWWNA



Panel Discussion and Questions

*Question: Jim Beck, Professor Emeritus, Dept of Rural Economy, University of Alberta
In recent days there has been a lot of talk about "Hunger in the World" and the high prices of corn and wheat and other agricultural commodities driven by bio-fuel production. How likely are we to see a move by the forest sector to provide sources for bio-fuel in future?*

Answer: Paul Jannke of RISI

This is an extremely interesting question and we have certainly seen a lot of push back in the agricultural area and a lot of our land has been taken out of agricultural production to produce corn. From the pulp producer's point of view, I think this is going to be a problem. Let me just say, wood pulp production is going to be a bigger phenomenon than we think, and it will take a lot of wood that would have been used for pulpwood.

One of the comments I got from European companies last week was how wood mills are not really that different than pulp mills except that it is cheaper to build a wood mill and deliver the product to the customer in a processed form. So, to an extent you can sell that product at a relatively higher price.

Basically, we are looking at a worldwide market today where hardwood production (particularly) is a plantation crop. It basically mimics an agricultural model and in Europe and Indonesia they are now getting mean annual increments of 45 to 50 cubic meters per hectare per year. It's a very advanced technology. How do they do that? Well, they buy the land, they have the clones, they fertilize it and that gets transformed into wood. In the agricultural model what happened to the price of fertilizer in the last year? What happened to the price of land in the last year? What happened to the price of oil in the last year? What happened to the price of all the input things required for agricultural production? Those all have gone up dramatically. What that means is the long term prices of hardwood resources are going to be much higher than we anticipate.

*Question: Terry Veeman, Professor Emeritus, Rural Economy, University of Alberta
One of the trends that nobody talked about in the United States is that many investment firms are trying to buy forest land. I am wondering if people are thinking what, perhaps, that could be doing to the supply of wood and construction materials in the United States. I think likely some of it will be taken up by imports but a lot of forested land will now be going for higher uses, for recreation, etc.*

Answer: Paul Jannke, RISI

I was actually going to use that as an example. We need to address the first question: there is a lot of talk about bio-fuel these days. But I think more so, we need to also point out that biomass does not necessarily mean wood (think of switch grass, hay etc). I think bio-fuel is a long way off for wood. I think there are a lot of other technologies that we could use before we find that wood is the alternative source.

The other thing I was going to say is that, two years ago, lots of our clients were saying that as forest lands get consolidated, more and more land is going to be sold off for higher and better usage, and there will be less and less timber available. We are going to see prices jump because of that and they will jump up significantly. Well, right about at the beginning of this year wood prices actually started coming down. Let me just say that a part of the reason was that people are going to hold timber off the market and they will not sell it as fast as we have seen in the past because they want to get higher prices. And part of the land will go to other hardwood uses. What actually happened is that the real estate market collapsed. So how many better uses of the land are left at this point, especially in places like Florida, where there is a major oversupply of housing? Florida has an over supply of housing, as does the entire southwest.

The other thing is that people might want to sell timber for \$500 dollars, so they hold off. But then when the market hits \$400 dollars they then decide it is better to sell the timber because they don't want to sell their timber at \$350 if they wait. So, we saw a bunch of wood come back to the market and prices come off significantly at about the beginning of the last year. So, are they going to be more reluctant to sell than we saw in the past? Maybe at the end of the day they are still going to sell because they still need to generate cash flow to satisfy investors. I think the answer will be that we will see something similar to what we have seen in the past, which is: the markets are going down and people will be forced to sell the timber they are holding and they will sell at the market price.

Question: Wayne Thorp, Consultant

There are certain instances when the rail network is unable to haul wood products due to inadequate infrastructure. What plans does CN have in Alberta and particularly in the northern areas near Peace River?

Answer: Andrew Fuller, CN

There is something definitely going on but I don't know exactly which lines you are talking about. I don't believe they are going to upgrade the line you are referring to. From my point of view, it isn't worth upgrading for that capacity. I don't think we are going to do that because investments on the bridge structures are extremely high. It is a question between a volume and investment and the supply chain. We are thinking about this and it's definitely an issue. I am not sure what steps will be taken in future to tackle this issue. It is certainly an issue. Let me tell you, by way of an example, that the line in the Meadow Lake area of Saskatchewan has been completely shut off because of the infrastructure problem and now the mill transportation is totally dependent on trucks. Let me get back to you later on the Peace River situation as I could be mistaken in terms of the actual investments.

Question: Terry Veeman, Professor Emeritus, Rural Economy, University of Alberta
Several speakers, especially Ted Helvoigt, stressed the role of technology transfer in production. In Canada we have a very fragmented system in providing technology to different sectors. My question is: how can we ramp-up research and development for this sector? I think this is a very crucial issue in the future and the present.

Answer: Ted Helvoigt, ECONorthwest Economic Consultants

Yes, it's definitely the time to do it. (My perspective comes mostly from the 1990 in the Pacific Northwest where there were depressed communities and 10,000 job losses.) In the US, the relationship with the Universities in the Northwest, especially in Oregon State, is very close. There are also other universities across the country that have large forest engineering or forest product components. I think universities have to be part of it. This was especially important for the Northwest United States. Also, in the Northwest during the 1990s there was a sense that much of it (technology) was okay. Technology was already present there, so firms either went with an expansion or kept doing the things we were doing with the hope that maybe things will change. Much of the technology is out there. But things in the Northwest US are different than Alberta. Part of the story in the Northwest was that if you could get more productivity, I mean economically productivity based on the new technology, you could save some money that would be spent on labour and other things. You actually compete with your competitor and that is a real driver.

Comment: Ray Luchkow, PriceWaterhouseCooper

I guess there are a lot of other questions related to stimulating the research and development investments in forest product sector. I guess on one hand you can deal with productivity increases by using technology, and I think that has certainly been the case for this province. We have a very efficient, highly productive forest product sector, by many standards, and we get good comments on that from the US as well.

There was some comment earlier related to pursuing alternative uses of our forest and fibre and I think, historically, we have been simply producing commodity products. There is lot of hope in our current production that the market will get turned around soon. I think certainly today there are not great new stories out there. I would suspect this to continue through 2008. 2009 is still a long way out for many more producers and I think that something could stimulate businesses and certain governments to try to pursue new alternatives.

My understanding of the current bio-economy is that there are traditional technologies that perhaps haven't been applied as efficiently as possible and so the return is questionable, and certainly has required subsidies etc. But I do understand there are new technologies available that are emerging, perhaps still being proven on the bench but they haven't been commercialized yet, to prove higher return to the industry.

But having said that, in Alberta and many other parts of Canada, a lot of our fibre is still very much tied up with the existing facilities and existing tenure holders and there are other barriers. We have industries coming into this province looking for fibre and looking to set up partnerships. I think there is a lot of reluctance and the forest industry is a risk avoiding industry and so they are not quick to respond.

One more thing to mention is that the government has policy issues that they are trying to resolve. If you get into something like electricity generation, then there is a new public policy issue regarding how we get that energy on the grid. There is also complexity associated with the bio-fuel issue in terms of getting into the market and having to develop new partnerships down the supply chain. But I think at the end of the day the current market conditions are likely to be a stimulus behind moving much more aggressively in research and development technology.

Comment: Paul Jannke, RISI

Well, you are not going to see investments from lumber producers. You will see some investments coming from BC and how to deal with the beetle killed timber and how do we process the drier beetle killed timber because that's a medium-run life or death situation for them. Outside of that, lumber producers today are saying, "I have 6 million dollars and I am burning \$500,000 a month by producing lumber. I have a year left to go until I have to shut mill down and so I am looking for something that will help me make it - even for fourteen months. So I am not going to spend any money on research and development." Luckily for them, the forecast is going to be wrong, but unfortunately it is probably going to be wrong in the other direction. I guess the only thing I would add here from that perspective is that the money for research and development really has to come from the government in the next eighteen months.

Question: Mark Crawford, Athabasca University

Could you please comment on the impacts of the purchase of BC rail by CN? And talk about the much anticipated expansion of Prince Rupert's port facilities - how much that is affecting or is expected to affect the pattern and cost structure of shipping in BC and Alberta, e.g. the volumes on the Vancouver and Jasper line.

Answer: Andrew Fuller, CN

Thanks, I did want to go over this point in my presentation. From BC's point of view, I think it has added a lot more capacity, offering a much less complex operation from our point of view, e.g. single line routing so you are dealing with one rail line instead of two. This reduces complexity and does help improve the service and I see that continuing. From a Prince Rupert point of view, talking about those empty containers, yes they are changing and being reloaded with grains in the States but the value of Prince Rupert is the hope that we will pull container ships that usually go down to the Port of Long Beach. LA's Long Beach in the future will hit capacity if everything holds true.

Prince Rupert is two days faster to get to/from China versus LA and it has all kinds of access capacity. There is a lot of room. So, the value from BC and Alberta's point of view is that those containers or the inputs from them are going to go down to Chicago and to the Northeast to the retail markets but the containers will be refilled in States and there will be a supply of containers available for exports back to Asia. Those containers will be passing by anyways. So instead of goods typically moving in a rail car from northern Alberta down to Vancouver and loaded into containers, the change we will have to go through is that perhaps we will source-load the containers that pull up in Edmonton and bring them up to northern Alberta to put the pulp right into the container, seal the door, and then send it to Prince Rupert and then to a final customer. That's the change I see that will happen over the next few years simply because it's a more efficient model and also the capacity is going to be available.

Question: Helmut Mach, Director, WCER:

What is CN's infrastructure quality and capacity approaching Prince Rupert?

Answer: Andrew Fuller, CN

It's actually excellent. The rail line up there was built for a coal mine, which is now closed. A lot of people say that it is the best rail line that is available especially considering mono traffic which is extremely light. I know from a forest point of view, the products are heavier but the rail line itself, and the bridges, are good.

Question: Helmut Mach, Director, WCER

You talked about the consolidation of facilities in Oregon and the Pacific Northwest in the 90's etc. Can you give an indication of the size of mills that they consolidated to and what remains?

Answer: Ted Helvoigt, ECONorthwest Economic Consultants

There is still a fair bit of variability in mill size from relatively small mills with capacity around 50,000 board feet over eight hours and they have consolidated into some large mills such as Rose Burrow, which has a little over half a million board feet capacity over eight hours. There are still consolidation possibilities there, but closure is a possibility for mills on the east side of Oregon and east side of Washington, and a number of consolidation issues on the west side for some of the small mills. The average size of mill is certainly small in the Northwest compared to the interior of BC or Alberta. Our large mills, which are comparable to your medium-size mills, have gone away quite a bit, certainly gone away since 1990's and before that.

Question: Ray Luchkow , PriceWaterhouseCooper

There has been talk earlier about the bio-fuel production for electricity, I am wondering about what are the other uses of bio-fuel? Are there any others?

Answer: Paul Jannke, RISI

Well, that's a big challenge. I guess if we understood what a particular new alternative might be to the traditional commodity based forest products, then we probably wouldn't be in this room talking to you folks. The new alternative might be something to experience. Alberta, as a forest producing region, really came together about 20-25 years ago trying to develop a forest industry. We have gone through a period of rapid and innovative development. When I speak, or when all of us speak, about alternative uses many of us are looking at the bio-economy because we are looking at a carbon-constrained world. It seems like a logical option because of the amount of emissions that Alberta's energy sector is producing and we are looking at alternatives to try to mitigate the impacts of climate change. So I think that's kind of where we are gravitating to. But in terms of alternatives beyond that, I am probably not the person best able to comment.