



Global Lumber Supply Dynamics & North America Outlook

PwC Global Paper & Forest Industry Conference

Vancouver, BC May 11, 2011

By: Russell Taylor

International WOOD MARKETS Group Inc.

Introduction to: International WOOD MARKETS Group

- We are wood products industry consultants and we assist companies around the world to develop operational, marketing & business strategies.
- We are known as global market & industry experts/analysts on timber, lumber, panels & many millwork products sold in the U.S. market & key export markets.
- We produce Multi-Client Reports: **Europe & Russia; Clearwood Pine; Global Lumber Benchmarking; The China Book; WOOD Markets 2000, 2002, 2006, 2010; & the WOOD Markets Monthly Report**




WOOD Markets' Multi-Client Reports

2nd Edition

GLOBAL WOOD BOOK

TRENDS & STATISTICS


Country Profiles of Softwood (& Hardwood) Wood Products Industries



Featuring

- Profiles of more than 35 of the largest producing, importing, exporting and consuming countries that drive the international wood products industry and markets
- Regions examined include Europe, Asia, the Southern Hemisphere, North Africa/the Middle East and North America
- Coverage of softwood (and hardwood) production and consumption trends in timber harvests, lumber/sawmillwood, plywood, OSB, MDF and particleboard
- Economic (and housing) trends profiled for most countries
- Full statistical sections provide more than 300 data tables and summary graphs
- Over 350 pages

Available April 15, 2009



From the publishers of WOOD MARKETS MONTHLY INTERNATIONAL REPORT, WOOD MARKETS 1996, 2000, 2002, 2006, 2010 and many other strategic industry reports

2011 EDITION

WOOD MARKETS


The Solid Wood Products Outlook • 2011 to 2015

A DETAILED ANALYSIS OF THE NORTH AMERICAN WOOD PRODUCTS MARKET

COVERING: Lumber, OSB, Plywood, MDF and Particleboard

FEATURING: A Five-Year Outlook for Supply, Demand and Prices, including Mill Operating Rates

INCLUDING: An Economic Analysis of the U.S. Housing-Market Recovery and the Key Demand Drivers



Prepared and published by International WOOD MARKETS Group Inc.


LUMBER PANELBOARDS TIMBER ENGINEERED WOOD ECONOMICS MARKETS FORECASTS

GLOBAL TIMBER/SAWMILL/LUMBER COST BENCHMARKING REPORT

2010 Annual Basis & Q1/2011

Featuring:

- A profile of the major sawn wood-producing regions in North America, Europe and the Southern Hemisphere
- Benchmarking of log costs, sawmilling costs, lumber revenues and margins for over 25 key countries or regions
- Includes full-year costs/revenues for 2010, with a timely update on cost structures occurring in Q1/2011 (just before the release date)
- Assessment of transportation on delivered costs to market by exporting country
- Cost summaries and analyses based on information gathered directly from sawmill visits

Available May 31, 2011




MONTHLY INTERNATIONAL REPORT

VOLUME 11, NUMBER 1 • FEBRUARY 2006

Featuring Lumber, Panels and Wood Products Analysis

Global Competitiveness

Low-Cost Labor Regions Winning

In many finished products (such as furniture, cabinets, flooring, millwork, moldings and doors) and across construction (like plywood), low labor costs provide a competitive advantage. This has been particularly evident in the U.S. in terms of furniture imports from China, and also in plywood and moldings shipments from Brazil and Chile. The relative competitiveness of China, versus Canada and the U.S. is very evident (Figure 1). Essentially, countries like China and Vietnam can employ half to fifty workers for the price of one North American worker. As an alternative to our China Shell report, countries like China are now incorporating state-of-the-art capital with low labor costs to achieve the lowest production costs in the world. So, depending on your industry, beware!



WHAT'S INSIDE

- Analysis
- 2 OSB Capacity Growth
- 12 Monthly Prices: World Lumber & Panel Prices
- 18 Price Forecasts: One-Year Price Outlooks
- Features
- 4 Special Reports: Western Red Cedar
- Global Statistics
- 8 Australia, Europe, USA, Canada

GLOBAL PRICE TRENDS



BC INTERIOR Mountain Pine Beetle Attack

Impact and Outlook on BC Timber Availability and Wood Products Production



Featuring

- A proprietary modeling of BC timber fibre availability by region and by year to 2028 under key assumptions
- A modeling of BC lumber and panel production by year
- An annual projection of the likely supply of wood residuals (for pulp, MDF, particleboard, bioenergy and wood pellets) in BC
- BC's declining lumber output and its impact on the supply/demand balance in North America
- A discussion of how higher lumber or timber prices will be required to fill the looming North American deficit
- An examination of how producing regions/countries should benefit



THE CHINA BOOK: Wood Products Industry and Market Review

Assessment of China's Raw Material Requirements, Production Scale and Fit in Export Markets



AVAILABLE MARCH 2010

PREPARED AND PUBLISHED BY International WOOD MARKETS Research Inc.

Presentation Outline:

- 1. Global Trends**
- 2. China – Impact on BC Industry**
- 3. Other Asian Market Impacts**
- 4. Mountain Pine Beetle – Impact on BC Industry**
- 5. Canada (& US) Outlook: 2011-2015**
- 6. Summary**

1. Global Timber & Lumber Supply Issues

The biggest wildcards impacting markets:

Short Term to Mid Term Demand (2011-2013):

- **U.S. housing starts – to a “normal” 1.5 million units when?**
- **Slow & steady growth expected in U.S. market.**
- **EU (global) debt crisis (and other emerging crises?).**
- **China’s supply shortage (emerging gap vs. demand).**
- **Rising demand in Middle East & North Africa markets**
- **Japan – rebuilding after the earthquake & tsunami**
- **Other Asian markets – steady demand (Korea, Taiwan)**
- **Other wildcards: Markets in India, Other Asia, etc.**
- **Conclusion: Rising demand, strong at times and then it will soar!**

Global Timber & Lumber Supply Issues

The biggest wildcards impacting markets:

Mid to Longer Term Supply (2011+):

- **China's ongoing timber supply "gap" and need for imports**
- **Russia log export tax: WTO & going from 25% to 12.5%?**
- **Role of Timberland Investment Management Organizations (TIMO) in the U.S., New Zealand and other markets**
- **Rising sawlog and low grade log prices in Europe**
- **BC mountain pine beetle (and its expansion east).**
- **Quebec (2nd largest region in Canada) – 25% reductions in timber supply + 10% further reduction expected by 2013.**
- **US/global timber lumber supply gap looming by 2015?**
- **Other wildcards: Sawmill competitiveness between regions and in export markets.**
- **6Ocean freight rates & currency fluctuations**

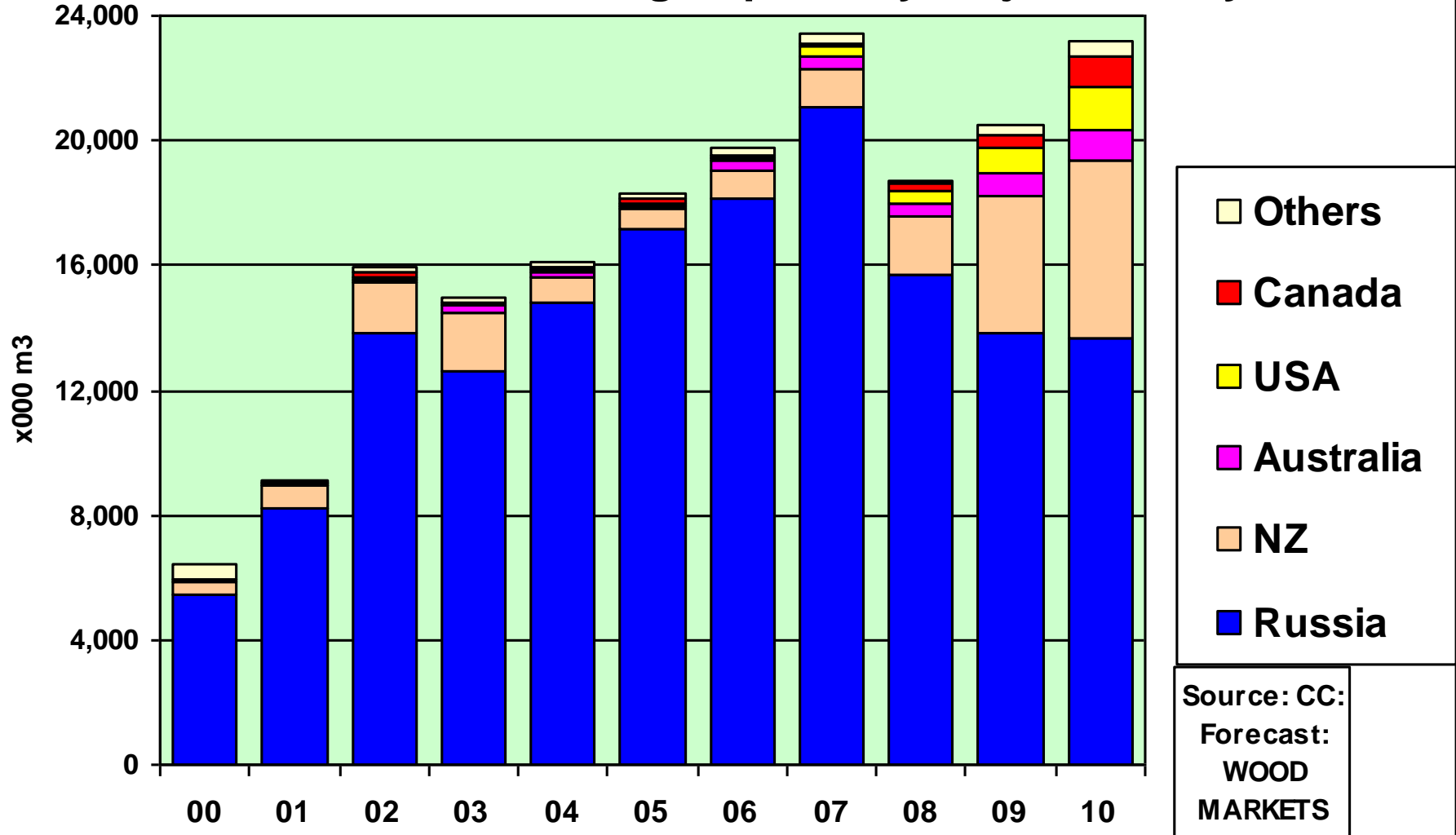
2. China: Key Growth Trends & Issues

Economic Growth & Wood Products Demand:

- **Strong economic growth in China = has rebounded quickly and strongly since early 2009 and is expected to continue at ~9%.**
- **China's domestic wood products demand growing at about 9-10% per year and this huge growth trend is forecast to continue to at least 2015 (Source: **WOOD MARKETS' *The China Book***).**
- **China consumes about 75-85+% of its domestic production, so the GDP growth and wood products growth are tied closely.**
- **But China is RAW MATERIAL CONSTRAINED!**

China: Softwood Log Imports

China: Softwood Log Imports by Major Country



Russia still dominates, but NZ, US & Canada exports rising

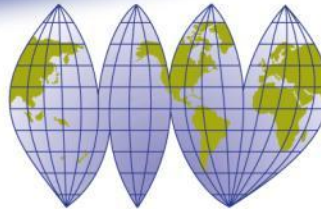
GLOBAL LUMBER/SAWN WOOD COST BENCHMARKING REPORT

Featuring:

- A profile of the major sawn wood-producing regions in North America, Europe and the Southern Hemisphere
- Benchmarking of log costs, sawmilling costs, lumber revenues and margins for over 25 key countries or regions
- Includes full-year costs/revenues for 2008, with a timely update on cost structures occurring in Q1/2009 (just before the release date)
- Assessment of currency fluctuations and transportation on delivered costs to market by exporting country
- Cost summaries and analyses based on information gathered directly from sawmill visits
- Enhancements for this report include sawmill proformas at actual and "normal" operating rates



**2008
Annual
Basis &
Q1/2009**



Available April 30, 2009

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THE BECK GROUP

In association with
PRICEWATERHOUSECOOPERS

Global Sawnwood/ Lumber Benchmarking Report:

2008 Costs Excerpts related to Chinese costs

2011 Report: Out in May 2011

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MARKETS**

Global Lumber Cost Benchmarking

Global Benchmarking: Countries Surveyed

USA:

1. USA – South – West
2. USA – South – Central
3. USA – South – East
4. USA – West – Oregon
5. USA – West – Washington
6. USA – West – Inland

Canada:

7. Canada – BC Coast
8. Canada – BC Interior
9. Canada – Prairies
10. Canada – East – Ontario
11. Canada – East – Quebec
12. Canada – East – Atlantic

Europe:

13. South Sweden
14. Finland

Europe (cont)

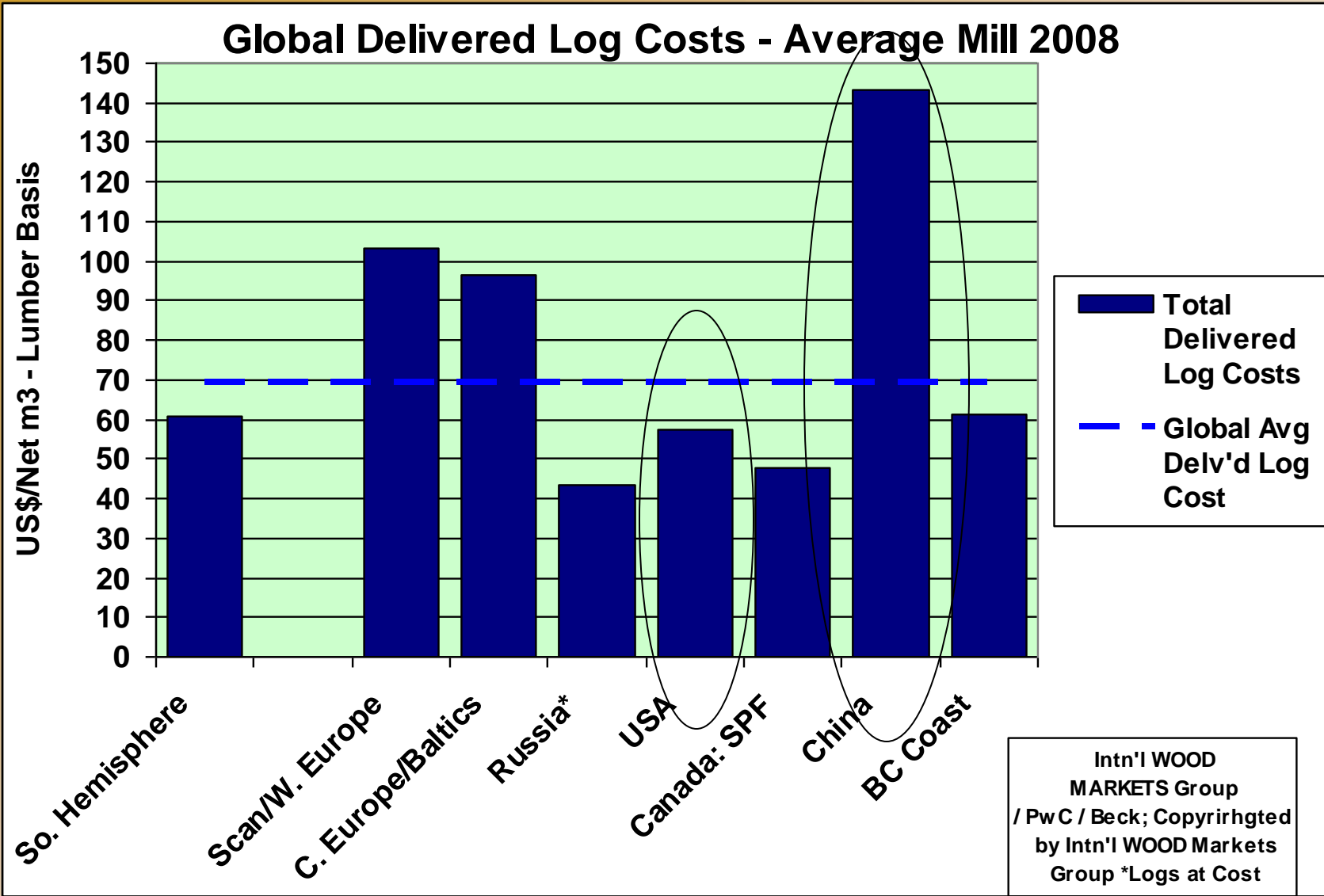
15. Estonia
16. Latvia
17. Lithuania
18. Czech Republic
19. Austria
20. Germany
21. Russia: West
22. Russia: Siberia
23. Russia: Far East

So. Hemisphere:

24. Australia
25. New Zealand
26. Chile
27. Brazil
28. South Africa

29. China

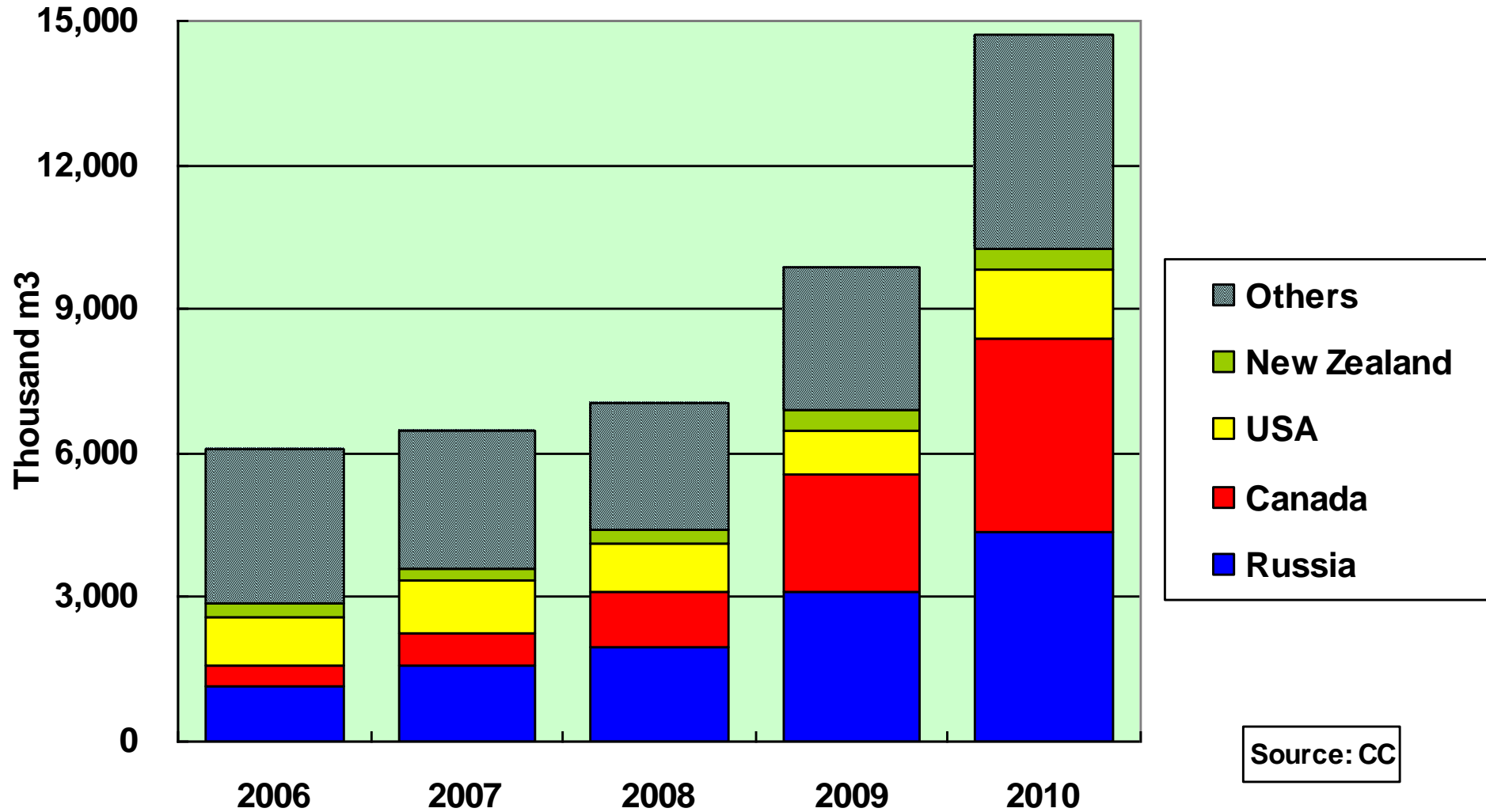
China = Highest Delivered Log Costs



China = strong log demand + imports = high prices

China's Lumber Imports = Soaring

China: Lumber Imports by Country



Source: CC

Canadian softwood lumber has overtaken Russia

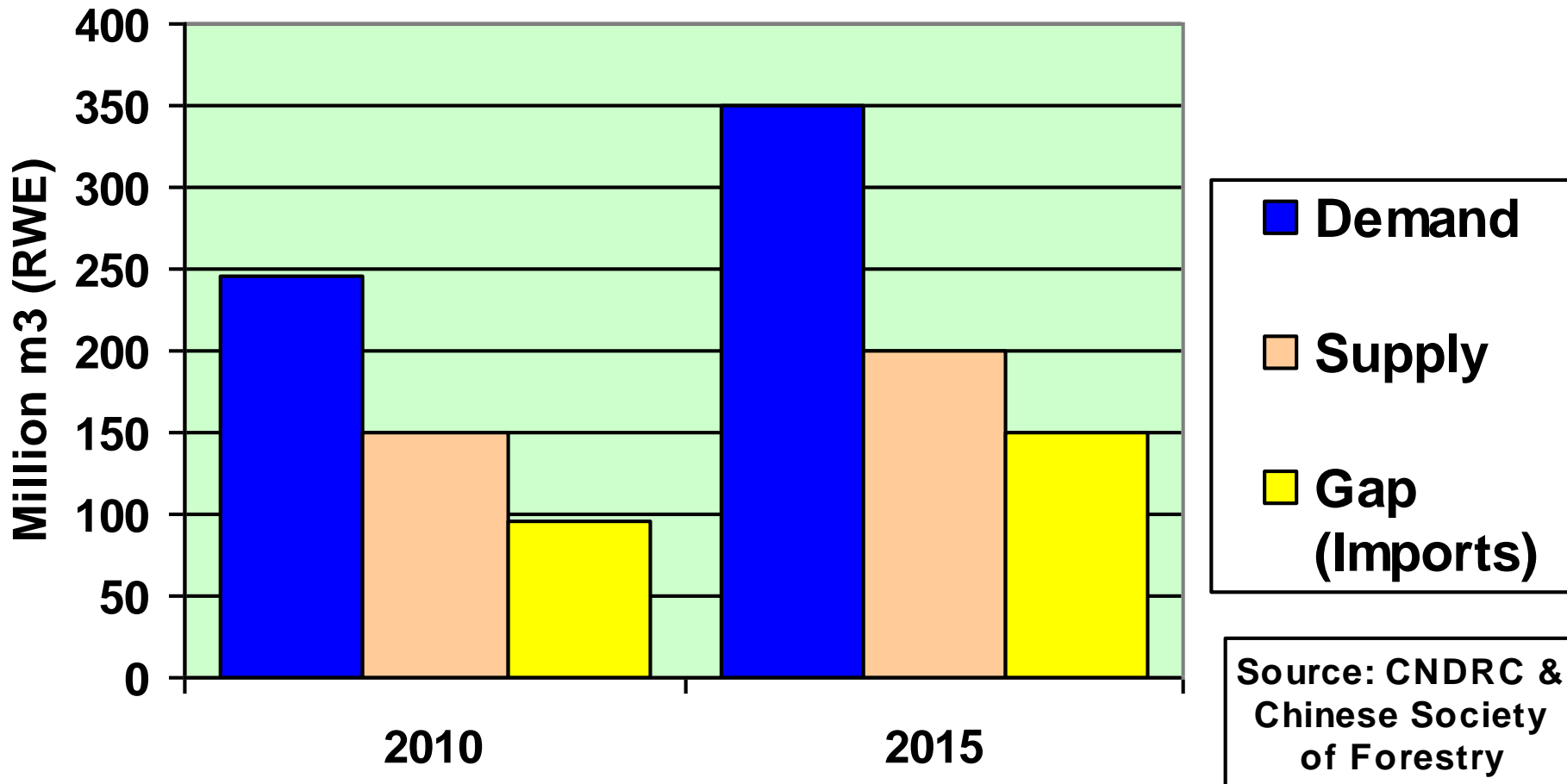
China: Raw Material Gap

China's total "wood" demand:

- Is expected to grow from 250 million m³ in 2010 to 350 million m³ by 2015 (a conservative 8% per year).**
- The projected wood deficit (or the role of imports) is expected to grow from 100 million m³ to 150 million m³ – Roundwood Equivalent (10% per year).**
- However, Chinese industry forecasts indicate that China's wood demand should grow more at a rate of 10-15% per year to 2015, so the import gap could be up to double what is currently forecast.**
- Where will the additional (100-200) million m³ (RWE) of imports come from over the next 5 years??**

China's Fibre Deficit = Huge!

China Fibre Deficit

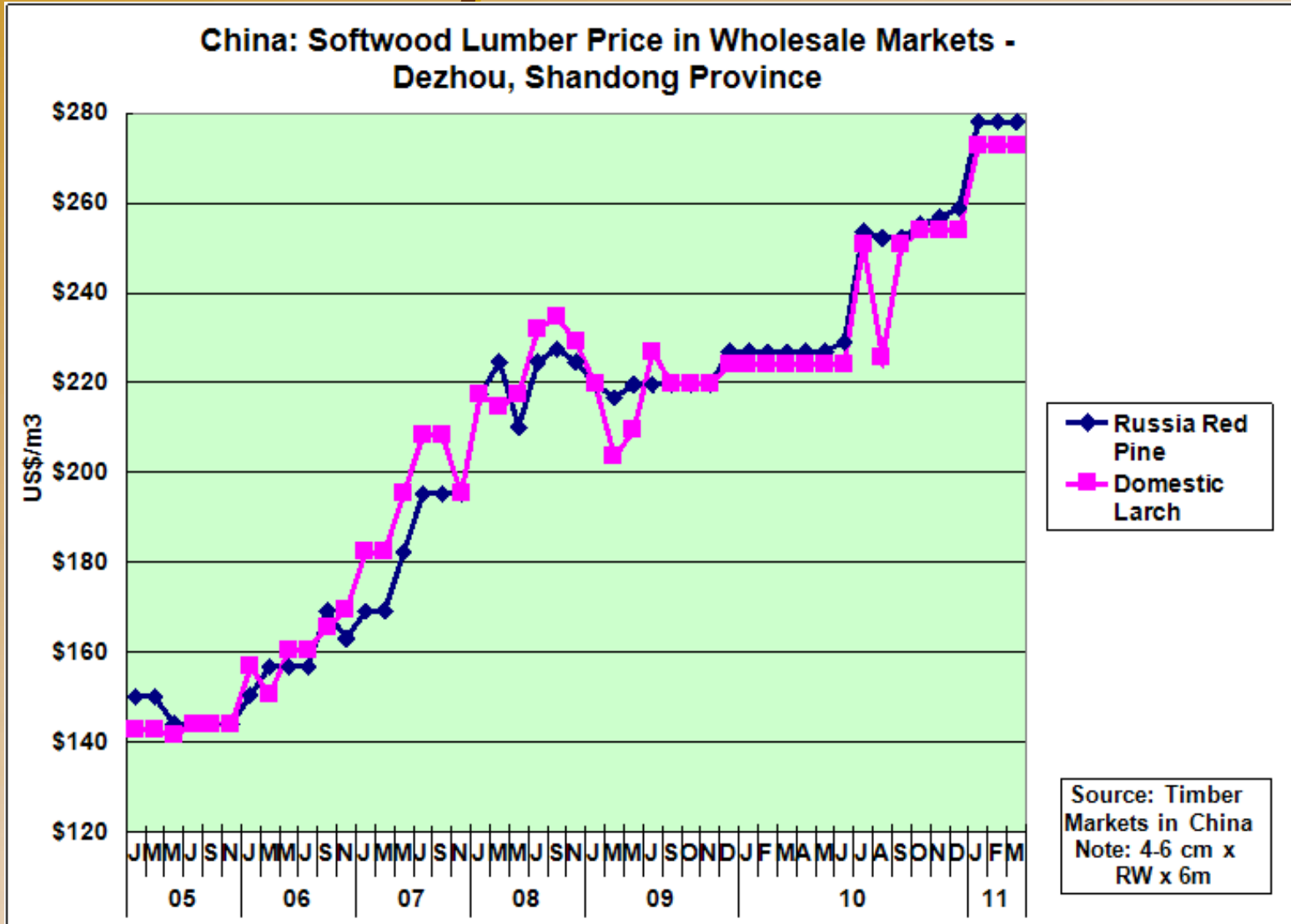


China's demand is growing at 8-10% per year = requires huge raw material supplies to be sustained!

RUSSIA: Timber Export Tax

- For softwood logs, the tax has risen:
 - from 6.5% to 20% (euro 10/m³) in July 2007.
 - to 25% (euro 15/m³) in April 2008.
 - to 80% (euro 50/m³) in Jan. 2012 - **DELAYED**
- For hardwood saw/veneer logs, the export tax is already at euro 100/m³.
- For birch pulpwood, the tax has been delayed.
- **Now the Russian log export tax may reduced by 50% to 67% after Russia joins WTO = an unknown**
- Russian log prices have been driven higher and this has caused the Chinese industry to look for new log and lumber suppliers to fill the gap.

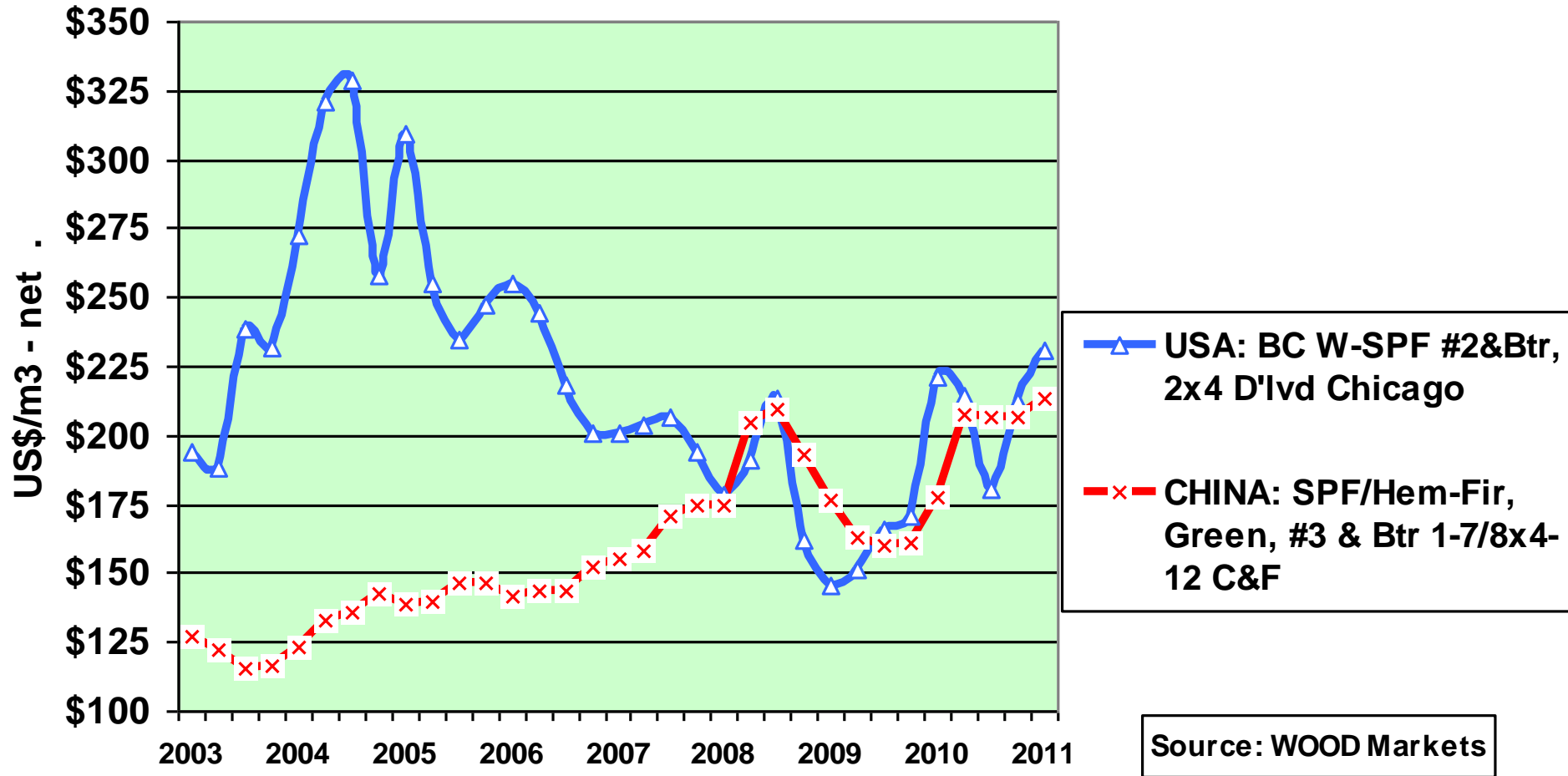
Domestic & Imported Lumber Prices Up



The timber supply gap is increasing lumber prices (in US\$);
 Source: WOOD MARKETS' Monthly *China Bulletin*

Chinese Prices Look Better to NA Mills..

Delivered Softwood Lumber: US vs China - Quarterly Prices



BC, Oregon, Washington mills now running for China as it is possible to make money selling to China!

China Impact on U.S. PNW Sawmills

- Logs are critical to China's employment levels, GDP growth and (JIT) supply chain, so more logs will be imported from the U.S., Canada, NZ, etc.
- Russia log supply is a wildcard due to number of political issues.
- China is able to match or outbid US PNW mills for logs at today's U.S. lumber prices. Current US PNW log price is about \$100/m³ (\$650/Mbf Scribner) or about \$165-\$175/m³ cif China port. **Chinese mills are still profitable at this log price.**
- Continuing pressure expected to continue on PNW log supply & prices, as China's sawmilling industry is hungry for increased log supply!

Comparison of Logs processed in U.S. PNW vs. China Sawmills

US PNW Logs: Domestic Mills vs Logs Processed in China

COST CATEGORY	US WEST COAST SAWMILL	CHINA SAWMILL (Imported US Logs)
Log Cost - US\$/Mbf - Scribner	650	650
Log Conversion - Scribner to m3	6.5	6.5
Log Cost - US\$/m3	100	100
Ocean & Inland Freight Costs		55
Port and Handling Costs (both sides)		30
Total Delivered Log Costs - US\$/m3	100	185
Total Delivered Log Costs	ADVANTAGE	
Sawmill Recovery - Logs to Lumber		ADVANTAGE
Labour costs		ADVANTAGE
Other cash conversion costs		ADVANTAGE
Total Costs	ADVANTAGE	
Average By-Product Revenue	ADVANTAGE	
Average Lumber Revenue		ADVANTAGE
EBITDA Margin		ADVANTAGE
EBITDA Margin	SUBSTANTIAL LOSS	MODEST GAIN

Source: WOOD MARKETS - *Global Timber / Sawmill / Lumber*

**THE CHINA BOOK:
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and Market Review**

**Assessment of China's Raw Material
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and Fit in Export Markets**



AVAILABLE MARCH 2010

**PREPARED AND PUBLISHED BY
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WOOD MARKETS' China Bulletin

Monthly Since 2007

Featuring:

Industry Trends &
Analysis, Statistics

+

Import/Domestic Log,
Lumber & Panel
Prices

WOOD MARKETS: 2 Conferences:

CHINA

Sept. 12-15:

**China International
SOFTWOOD Log &
Lumber Trade
Conference**

Tianjin, China

September 15-16

**Plus: Optional 3-Day
Tour of Log Ports, Mills
and Distribution (Sept.
12-14)**

VANCOUVER BC

May 9 2012:



**GLOBAL
WOOD PRODUCTS
INDUSTRY & MARKET CONFERENCE**

May 9, 2012
VANCOUVER, BC

May 9, 2012

FEATURING

- One-day international wood products/markets conference
- A cross-section of North American and international speakers
- Discussions and analysis about challenges, new opportunities, threats and outlooks

In conjunction with:

- PwC's 24th Annual One-Day Global Forest & Paper Industry Conference: May 11, 2011
- The Pulp and Paper Producers Council Annual Meeting: May 9-11 2011
- The Global Forest Products Leadership Summit 2011: May 9 -11, 2011

ORGANIZED BY
INTERNATIONAL WOOD MARKETS GROUP INC.
Vancouver, BC

**WOOD
MARKETS**

2. Other Asian Market Impacts

- **South Korea**
 - **Steady to increasing demand for logs and lumber.**
- **Japan**
 - **Rebuilding will increase demand for logs and lumber in 2012.**
- **India, Middle East, North Africa**
 - **Increasing demand but higher freight rates.**
- **Australia**
 - **New demand to rebuild flood damage.**
- **Outlook:**
 - **Strong demand drivers in Asia.**

BC INTERIOR

Mountain Pine Beetle Attack

Impact and Outlook on
BC Timber Availability and
Wood Products Production



Photos courtesy of Forest Innovation
Investment Ltd. and BC Ministry of Forests

Featuring

- ▲ A proprietary modeling of BC timber fibre availability by region and by year to 2028 under key assumptions
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- ▲ An examination of how producing regions/countries should benefit

Published by



3. BC Interior: Mountain Pine Beetle Attack Report

Forecast: to 2028

The future of BC's
harvest and wood
products production
produced by:

- **Jim Girvan**
- **Murray Hall**
- **Russ Taylor**
- **Gerry Van Leeuwen**

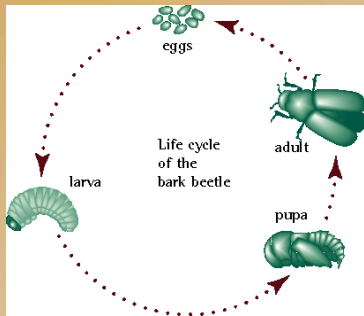
Released: Late
March 2010



BC Mountain Pine Beetle

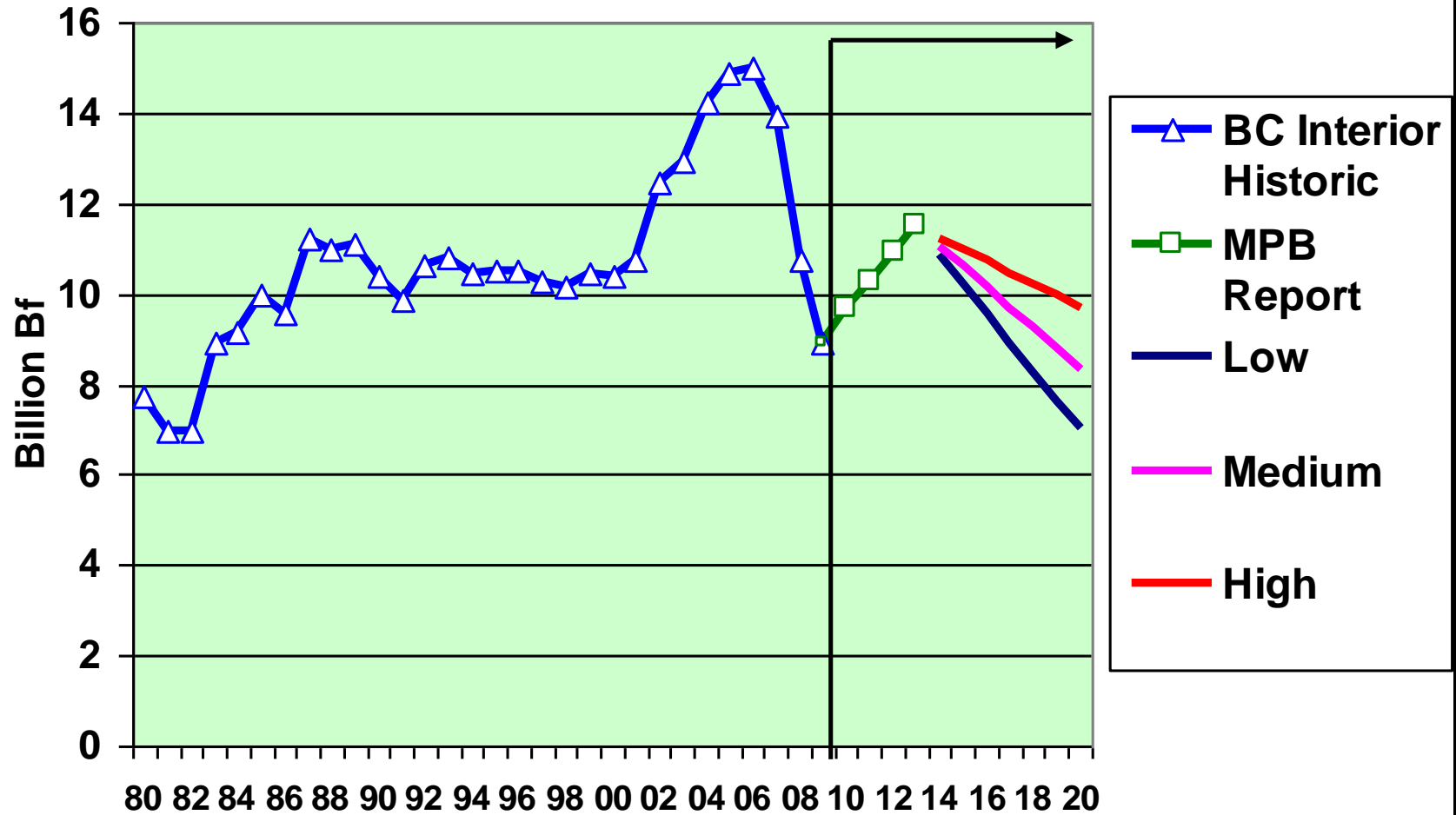


- The mountain pine beetle damage:
 - ~ 675 million m³ dead in 2009 (50% of total BC pine) & 16.3 million hectares; = 14x B.C. Interior's annual harvest.
 - Likely will peak by killing **900 million m³ by 2022 = 70% of B.C.'s total pine & reducing the log harvest & sawnwood output by 20-30% of historical levels.**
- Is now in ALBERTA and is moving east...
- The MPB = some impact on structural lumber properties (MSR now an issue), but looks different - **blue stain & checking = problem for Japan (and some US) sales.**



BC Interior: Lumber & MPB

BC Interior Lumber Production: Possible Outlook Scenarios



Source: StatsCan; WOOD MARKETS; BC Fibre Model

Declining lumber production forecast after 2014/15

From the publishers of WOOD MARKETS MONTHLY INTERNATIONAL REPORT,
WOOD MARKETS 1996, 2000, 2002, 2006, 2010 and many other strategic industry reports

2011^{EDITION} WOOD MARKETS

The Solid Wood Products Outlook • 2011 to 2015

**A DETAILED ANALYSIS OF THE
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*FEATURING: A Five-Year Outlook for Supply, Demand
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LUMBER PANELBOARDS TIMBER ENGINEERED WOOD ECONOMICS MARKETS FORECASTS

4. Canada (& US) Lumber Outlook: 2011-2015

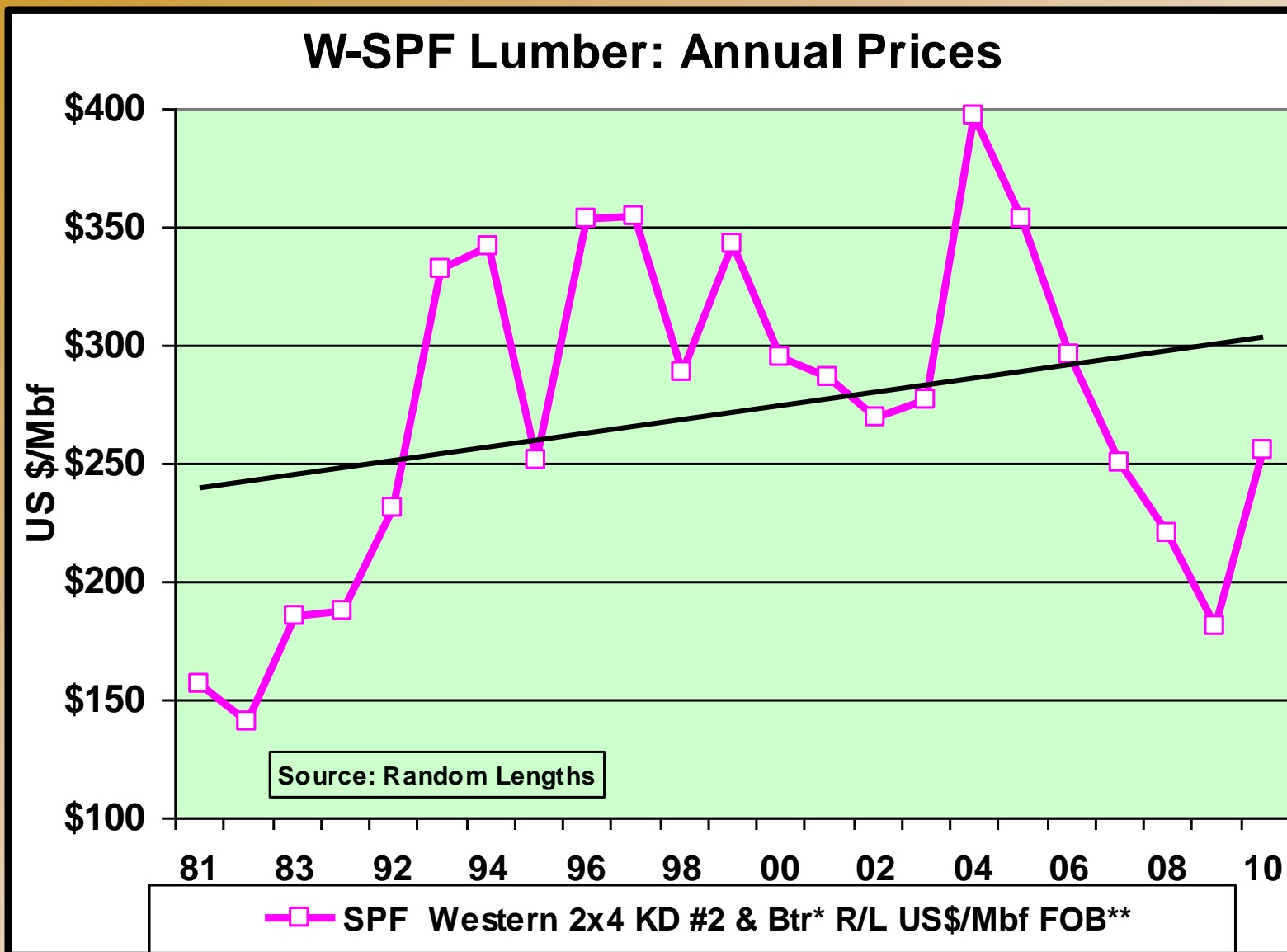
Excerpts from
our latest 5-
year forecast

Outlook for Lumber &
Panel Products

Released:
Dec 2010

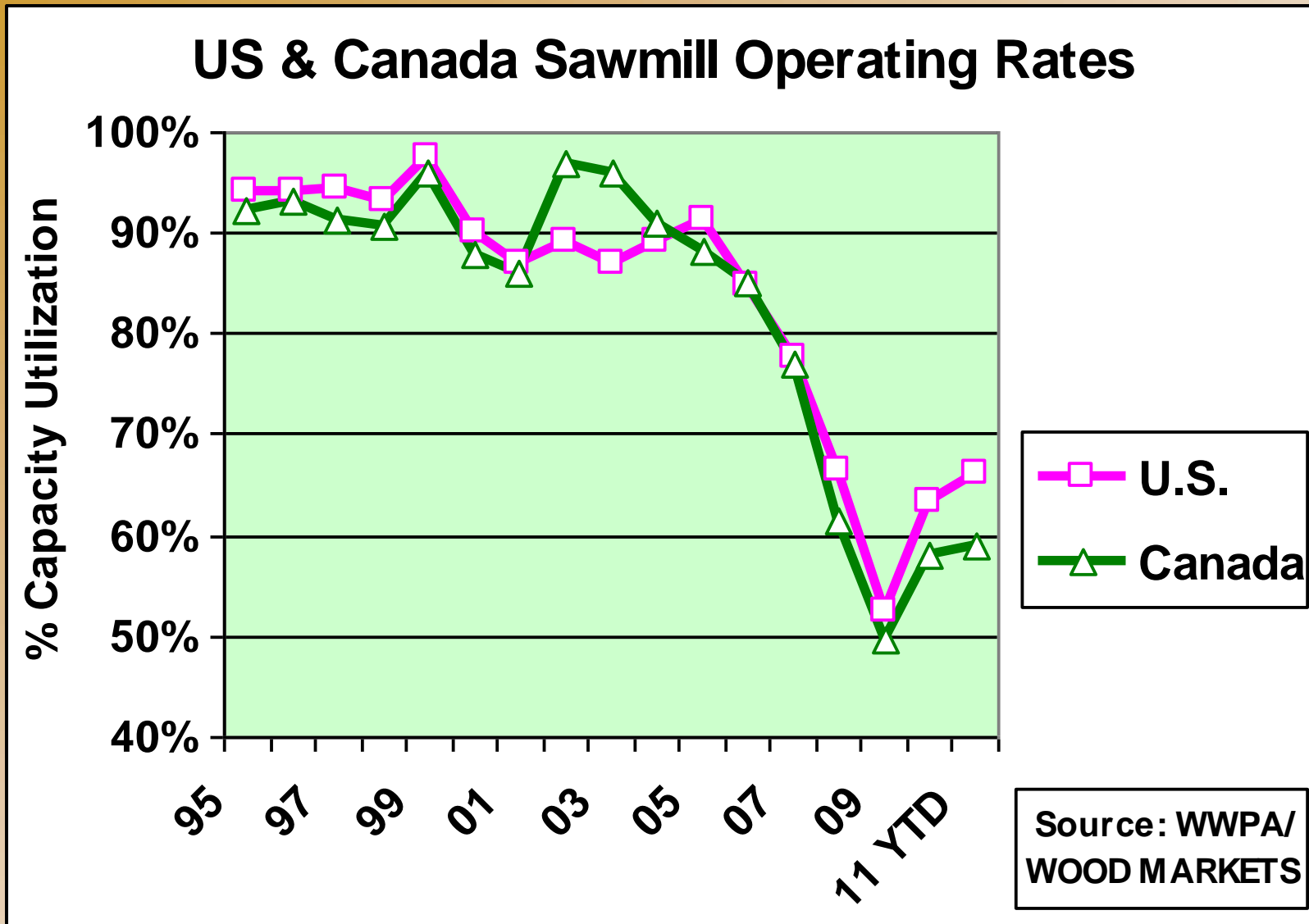


US Lumber Prices = Below Normal



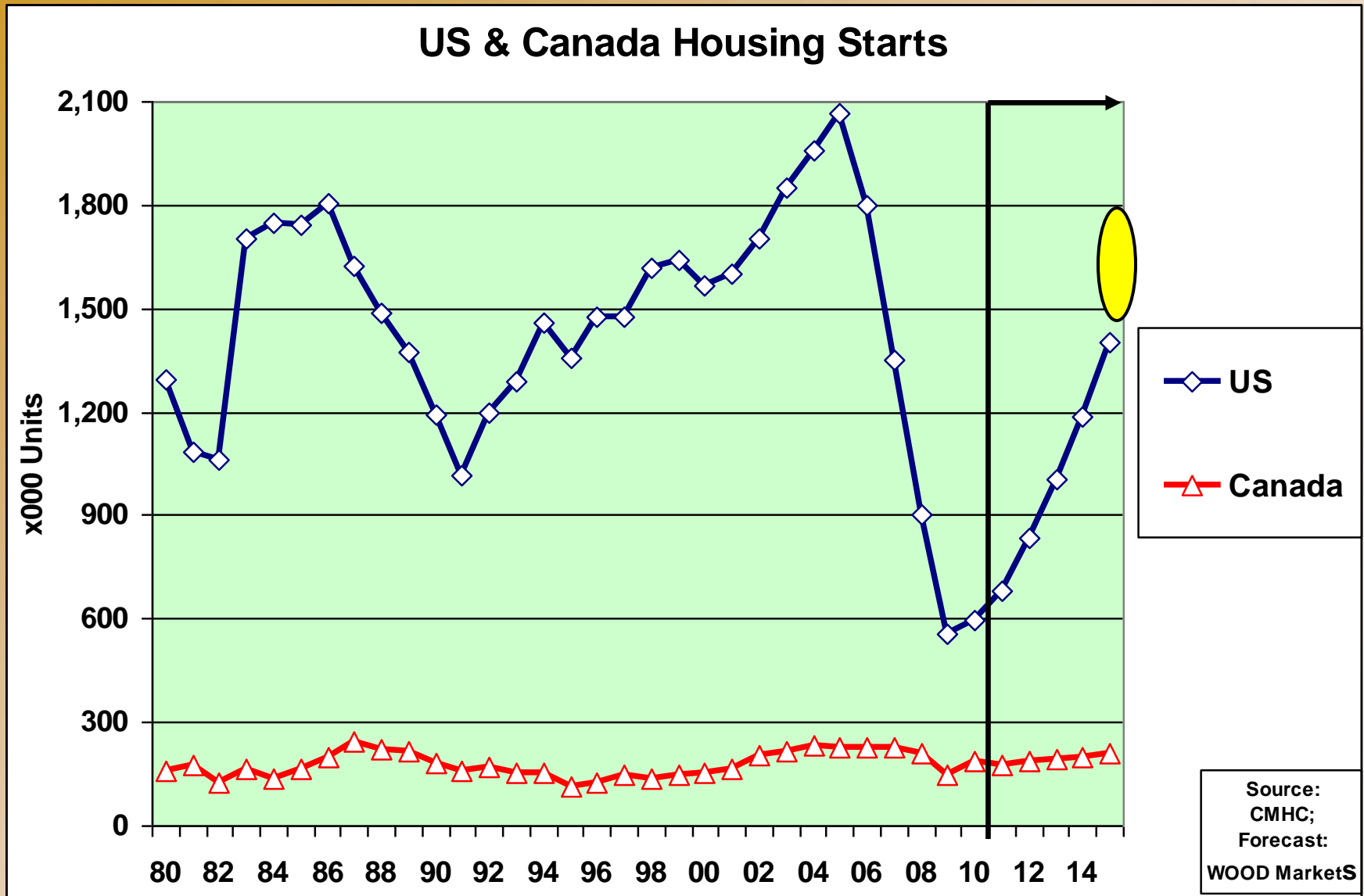
Need US \$250+/Mbf for profitable operations at “average” mill

US & Canada Sawmill Operating Rates

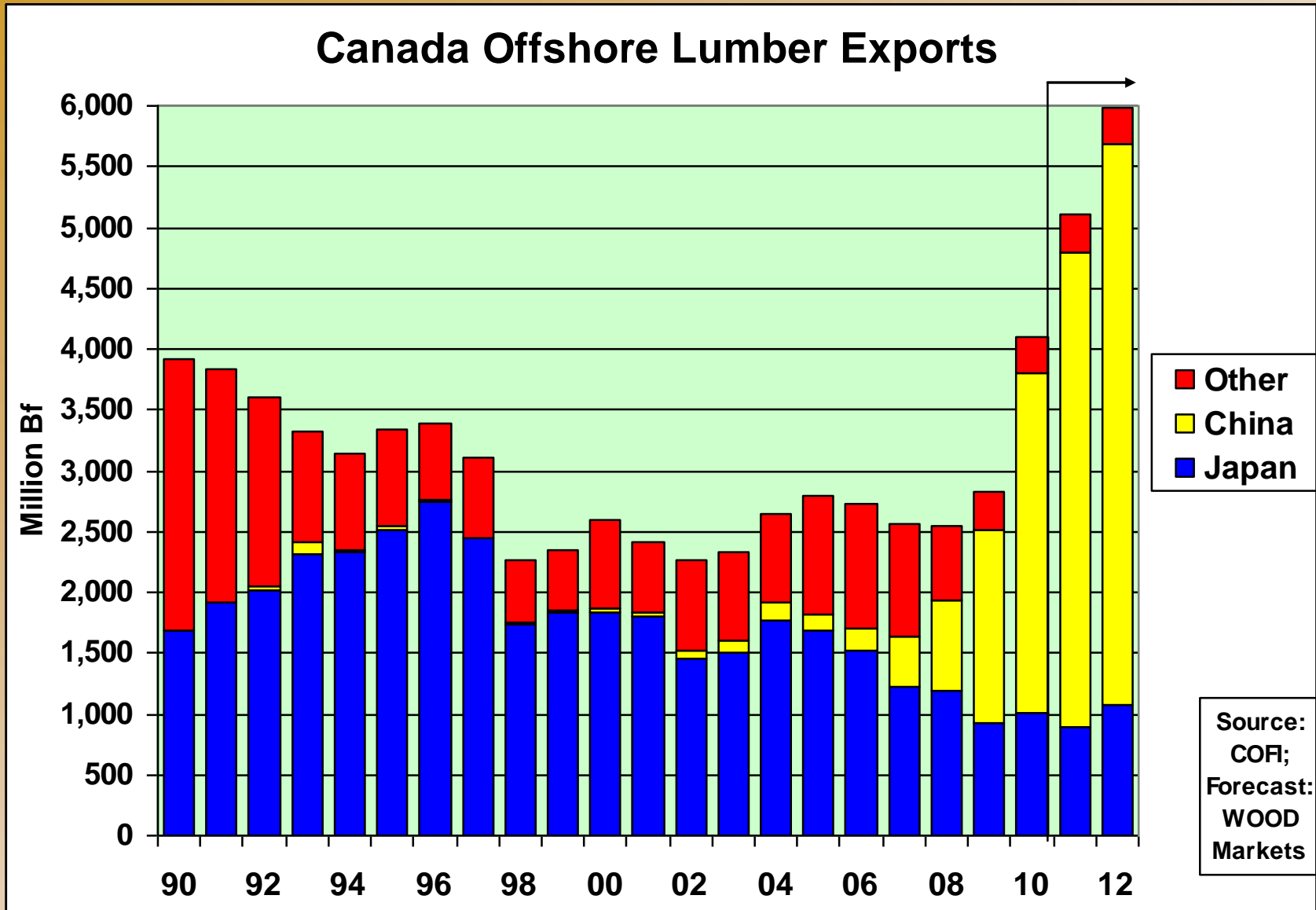


Need 80+% operating rates for stronger prices!

US & Canada Housing Market: Forecast

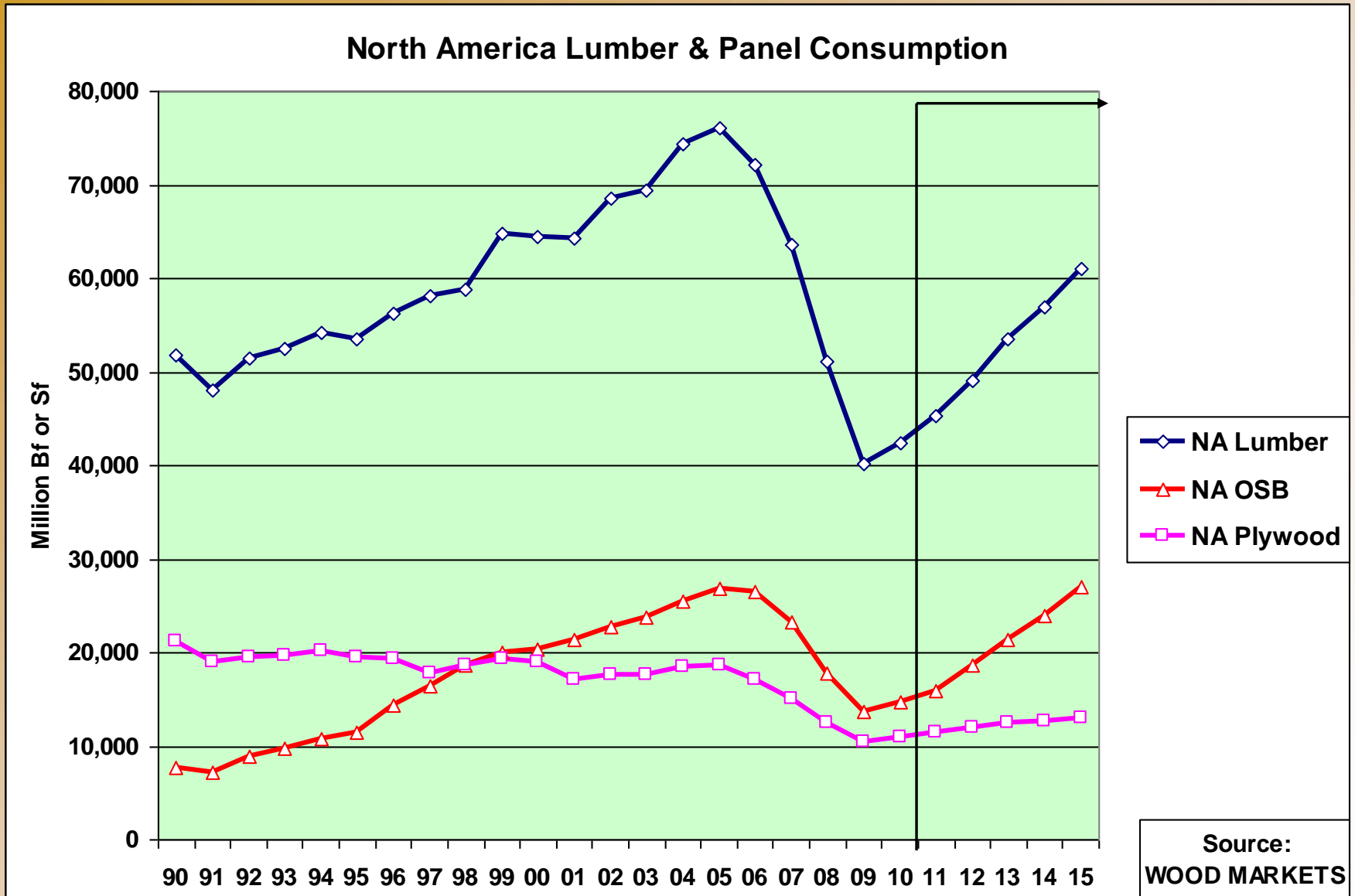


BC Lumber Exports to China = Soar



Huge upside for BC lumber in China until US market soars

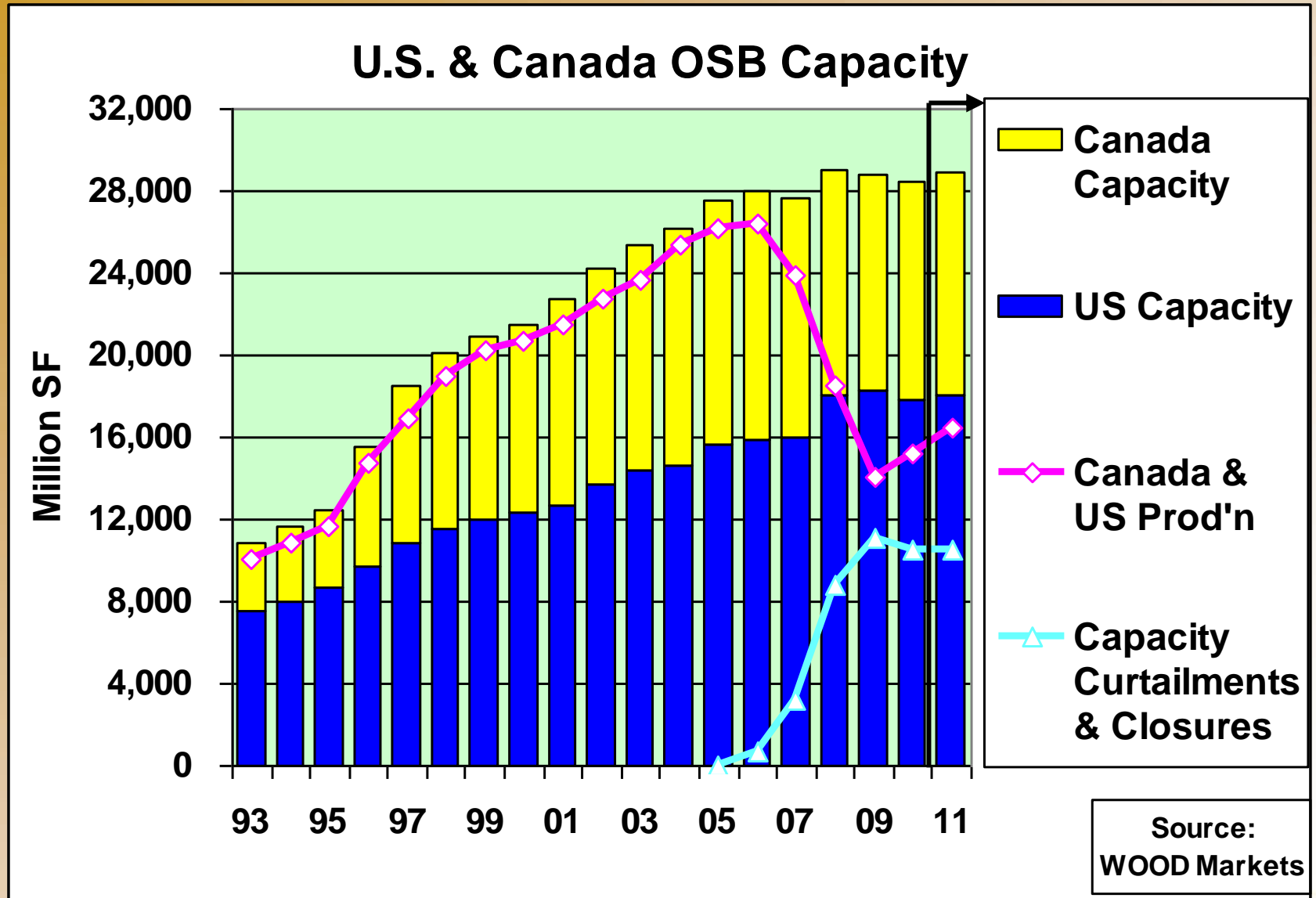
NA Wood Products Consumption: Up!



OSB will rebound to its 2006 highs by 2015; Not lumber



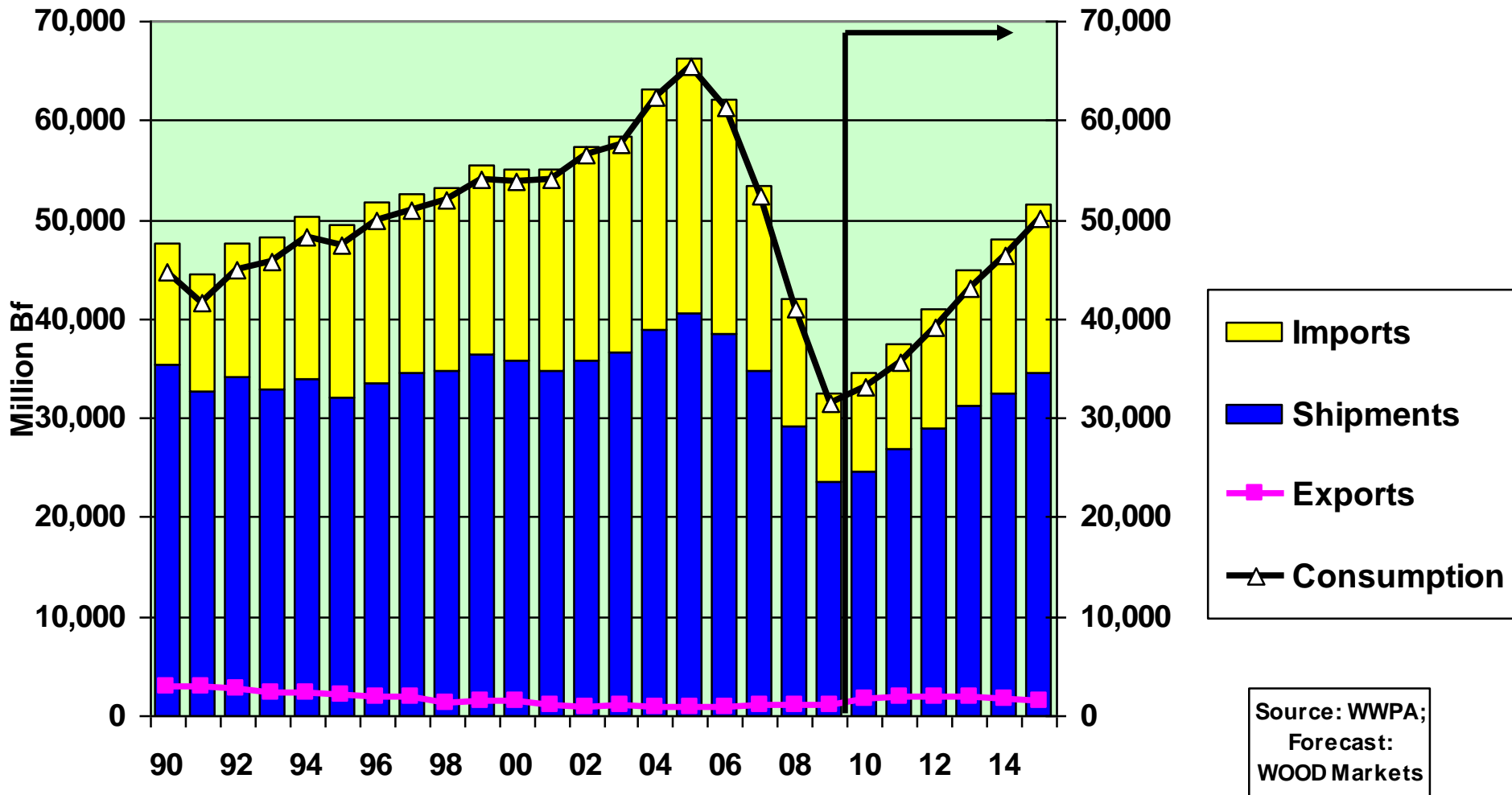
OSB Operating Rates to Lag Lumber



No China factor with OSB; too much installed capacity!

US Lumber Outlook to 2015

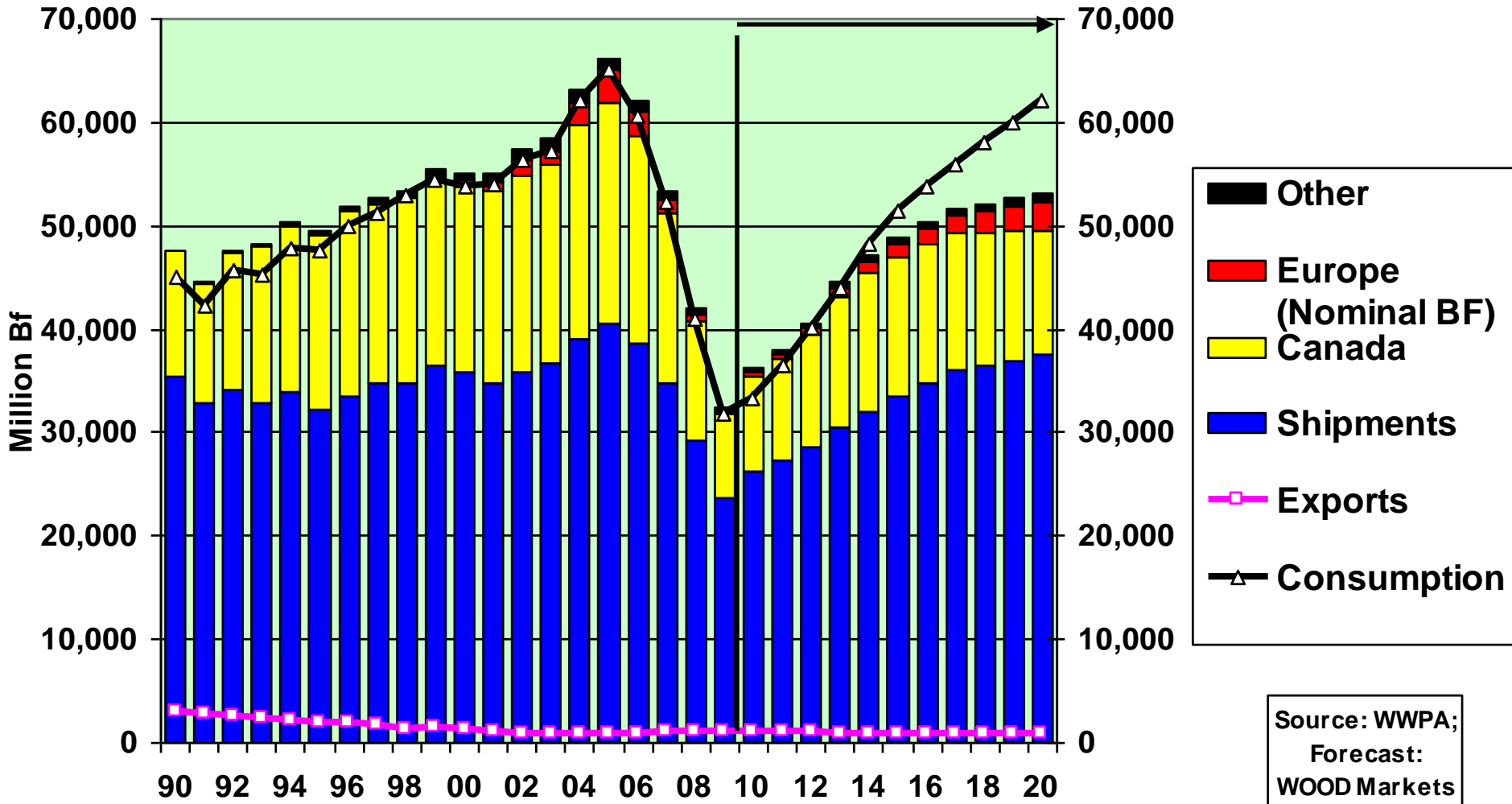
USA Lumber Supply & Demand



Based on the US demand outlook, output + imports rise

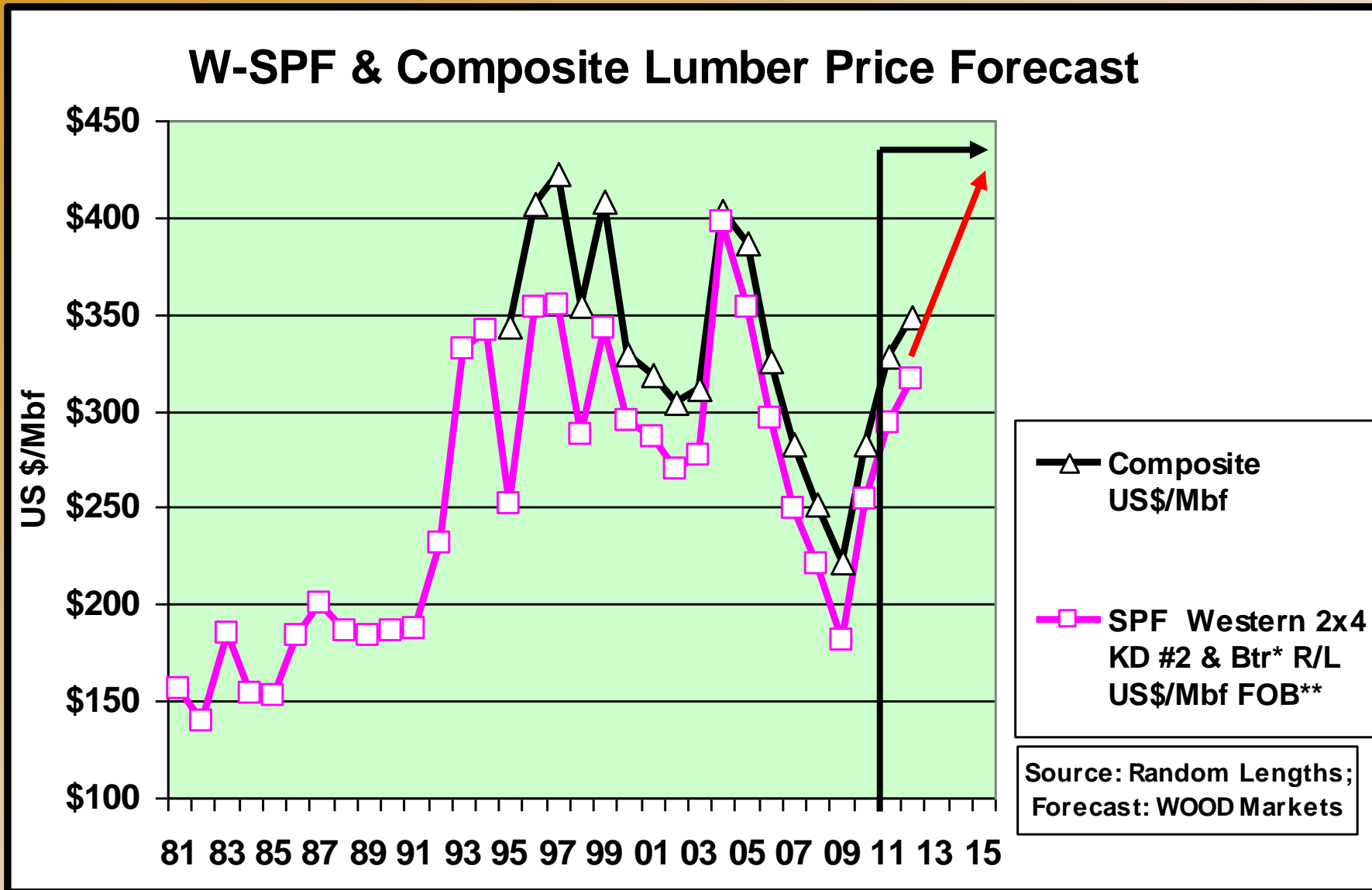
Potential Scenario 2020 = Lumber Gap

USA Lumber Supply & Demand



Gap will require higher prices for logs, imported lumber, etc.

5. US Prices to Soar by 2013-14



W-SPF Prices to spike as high as US\$500/Mbf in 2014

North America Lumber Outlook

- **Slow recovery in new residential housing market**
- **Tightening timber supplies:**
 - **BC, Quebec, role of TIMOs = tighter supply**
 - **Increased demand for logs in China, Asia**
- **Increased lumber demand:**
 - **Slowly in North America as new residential housing market slowly rebounds**
 - **High export demand in China = to continue**
 - **Increasing in Asia, Middle East, North Africa**
- **U.S. demand will start to outstrip supply ~2014**
- **Reduced sawmill capacity in the US and Canada**
- **Higher and very strong prices forecast!**

Thank You!

Russell Taylor RPF, MBA

President

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