Market Outlook for Wood-Based Panels

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The European panel industry had a promising start in 2007, but a disappointing end of year as construction-related demand slowed; 2008 has proven challenging due to increasing costs and regulations as well as concerns for raw material availability.

Escalating petroleum costs not only add transportation costs, but also raise resin costs, for all manufacturers of wood-based panels.

North American panel production and consumption were strongly affected by the United States housing collapse, with demand projected to remain weak throughout 2008; the resulting closure of sawmills in the western US and Canada caused raw material constraints for composite panel manufacturers.
Highlights of Wood-Based Panel Market Review, 2007-2008 (4-6)

- During 2007, the North American structural panel industry closed 11 mills, but opened three, resulting in a net capacity loss of 2 million m³, bringing capacity utilization down to its lowest level since the early 1990s.

- Production of panels within Russia is forecast to increase substantially in 2008, with new production capacity and increasing domestic consumption linked to rising residential construction.

- Lower consumption in the US, together with the weak dollar, led to a 27% drop in panel imports, with the largest drop being OSB imports from Canada; conversely, the weakened dollar helped US panel exports, which rose 6%.
Europe remained a net exporter of particle board, MDF and OSB, despite increasing competition and the strengthening of the euro relative to the US dollar.

Recognition of “harvested wood products”, including panels, as carbon stores as measured in the Kyoto Protocol could help to increase their use within green building programmes.

The California Air Resources Board formaldehyde emission regulations will cause panel manufacturers to modify panel products exported to the US.
• Extra-European plywood imports continued to boom, while lower priced imports coming from China and Brazil are constrained by duties and quotas.
• US panel exports to Canada have surged while Canadian exports to the US have dropped substantially.
Particle Board - Europe

Particleboard Volume (m³)

- Production
- Imports
- Exports

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Plywood Volume (1,000 m$^3$)
Particle Board - CIS

- Production
- Imports
- Exports

Particleboard Volume (m³)

Year:
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008

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Particle Board – North America

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Seasonally Adjusted US Housing Starts

Housing starts have been in a freefall since the beginning of 2006

Source: census.gov/const

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Sales of new and existing homes continue to decline as house values fall, energy costs remain high and consumer credit remains tight.

Source: census.gov/const (New homes)  
Source: www.realtor.org (Existing homes)
Inventory of unsold new homes remains at record levels and tightening credit will likely keep inventories high in the short-term and dampen new housing starts.
In 2005, the market had a normal inventory of 4.5 to 6 months. In 2008 the inventory of unsold existing homes has reached 10.5 months, although it declined from 11.4 months in July to 10.4 months in August.
House values have declined by 21.1% since the peak in June 2006 and by 16.8% in the past year alone.
Housing starts are expected to remain weak into the second half of 2009...
...and as a result, structural panel production in NA has declined by 26.6% since 2005...

Source: APA-The Engineered Wood Association, various years.

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...and capacity utilization rates have dropped to 70% for OSB and 77% for plywood...
...while prices have plummeted, particularly for OSB...

Source: Random Lengths

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...and the price differential between plywood and OSB has reached an historic high.

Source: Random Lengths

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Ominously, consumption has declined faster than production. Between 2005 and 2008, consumption was down 29.5% while production was down by 21.3%.
US Markets for Structural Panels

The vast majority of the decline has been in the new housing sector

Source: APA 2008

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The OSB sector has been particularly hard hit, declining by 23.9% (to 68% of capacity) while plywood has declined by a slightly lower 17.9% (86% of capacity).
US exports have responded as the dollar has weakened since 2002, although it has begun to strengthen over the past year.

Since 2002:
- $US has weakened 19.7% against the ¥
- $US has weakened 33.8% against the $C
- $US has weakened 38.2% against the €
US Structural Panel Exports

US exports of structural panels have increased substantially since 2005, particularly in the first eight months of 2008.
Traditional Markets

While panel exports to traditional markets have been weak until 2008...

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...exports to new, emerging markets continue to show strong growth.
Residential Rating Systems - National

2 Major Rating Systems

- 2005: NAHB Model Green Home Building Guidelines
- February 2008: NAHB National Green Building Program (NAHB Green)
- Currently 271 Accredited Verifiers in 43 states
- Over 1,000 certified green professionals

- Introduced in January 2008
- 1,041 homes built so far
  - 246 certified
  - 408 silver
  - 231 gold
  - 156 platinum

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Concerns with Green Building Programs

- Do not adequately consider LCI results in material specification *(Under review for LEED 3.0)*

- Over emphasis on material transportation distances ignores other factors such as embodied carbon and LCI data

- Inadequate consideration of carbon storage role of forests and wood products

- Little acknowledgement of renewable nature of the timber resource relative to non-renewable building materials *(Under review for LEED 3.0)*

- Only acknowledges FSC certification program while ignoring SFI program *(Under review for LEED 3.0)*
Use of Certified Lumber
40% of builders reported that they have heard of certified lumber.
Almost 35% of builders who have heard of certified lumber used it in structural framing applications (13.8% of total)

If you have heard of certified wood, have you ever used certified lumber in structural framing applications?

- No: 65%
- Yes: 34%

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A substantially higher proportion of builders in the US west have used certified wood.
 Builders using certified lumber reported that an average of 42% of their homes were framed with certified lumber.

If you have used certified lumber, what percentage of your homes are framed using certified lumber?

[Bar chart showing percentage of respondents who used certified lumber for framing homes, with peaks at 0%, 10%, 25%, 50%, and 100%, indicating a significant number of respondents using certified lumber.]
Only about a quarter of builders felt that their customers would pay a premium for a house built from certified lumber.
However, more than half of the large builders felt that their customers would pay a premium for a house built from certified lumber.

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Substantially more builders in the western US felt that their customers would pay a premium for a house built from certified lumber.
Almost 60% of builders felt that their use of certified lumber would increase in the future...

Do you expect that your use of environmentally certified lumber will increase over the next three years?

Percentage of Respondents

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<td>Percentage of Respondents</td>
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Increased Use of Certified Lumber

...although large builders were significantly more likely to think that their use of certified wood would increase in the future.

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Strategic Observations - Certified Lumber

- A substantial number of builders are already using certified lumber to build homes.
- Certified wood use is greatest in the west.
- The use of certified lumber is expected to increase in the future across all regions of the US, although large builders and builders in the west thought it would increase most.
- Only a quarter of all builders using certified lumber felt that their customers would pay a premium for a home built using certified lumber, although 40% of builders in the west, and almost 60% of large builders felt a price premium was possible.
- Likely acceptance of lumber certified under the SFI program by the LEED green building program could substantially increase the demand for certified lumber.

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CARB Update

- SW plywood and OSB manufactured to PS1 or PS2 standards are excluded from CARB
- 64 mills currently certified as CARB compliant
  - 40 USA
  - 10 Canada
  - 6 China
  - 5 Indonesia
  - 2 Malaysia
  - 1 New Zealand
- 114 currently working towards certification
CARB Update

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Phase 2 Emission Standards

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Conclusions

- Global financial crisis will likely prolong the adverse market conditions for housing, including tight credit for businesses and consumers, and result in continued weak demand for wood panels
- US panel manufacturers are increasingly looking offshore for new demand and finding it in new, emerging markets
- Demand for wood waste by bio energy sector will continue to drive up raw material costs for PB and MDF manufacturers
- High oil and energy prices, though moderating of late, will continue to squeeze profits for the panel sector
- The California Air Resources Board formaldehyde emission regulations will cause some short-term adjustments by the global panel industry