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Executive Summary

Significant change is expected over the next ten years in the Canadian forest sector. Companies can expect large changes in supply and demand patterns from countries such as Brazil, China, India and Russia that will also impact on supply within Canada. They can also expect changing product attribute demands resulting from an economy focused more on sustainability. These all provide transformational opportunities for industry. This Bio-materials Synthesis Report attempts to identify the best path forward for industry based on these expected changes and is one of the outcomes of the Bio-pathways II project. Forest industry stakeholders believe it is essential for Canada to continue to hold its competitive advantage with traditional products, and to expand further into value-adding products and services.

Summary of Findings:

1. Integration of traditional lumber and panel production with new bio-products is key to achieve success of manufacturing both traditional and bio-based forest products. This report has determined that the future success of traditional forest products and new, bio-based products is closely linked, with each endeavor supporting the other. While traditional lumber and panel products outperform emerging bio-products on job creation, companies can boost their profitability through innovative use and marketing of bio-products. The cost of raw materials is an important challenge for developing bio-products, but smart integration with traditional forest product manufacturing can eliminate considerable guesswork related to supply and cost of raw materials. More specifically, higher value solid wood products form the cornerstone of a competitive forest sector. They also justify the cost of extensive forest product operations due to their ability to pay a higher price per cubic metre of fibre.
2. 'Best Bets' for future wood products as identified by this Bio-materials Synthesis Report include:
 - treated framing lumber;
 - veneer strand lumber (VSL);
 - pre-fabricated and non-residential components/systems;
 - cross-laminated timber (CLT);
 - appearance products from lesser-used species, such as softwoods and aspen;
 - next generation decking;
 - sound abatement panels and;
 - ultra-low-density panels and packaging.

CLT is a cost-competitive wood-based solution that complements the existing light- and heavy-frame options, and is a suitable substitute for some building types that currently use concrete, masonry and steel. VSL has high MOE rating at lower cost than similar products. There is a huge need for low-cost, high-strength products, and a growing demand for longer spans. Decking is a \$6 billion market in North America. Wood plastic decking has taken 30 percent market share with considerable price premiums.

3. A strong profit outlook for lumber and panel products will require more of a 'product pull' versus a 'market push' approach to marketing.

Companies likely to succeed are those that innovate and develop the production agility to address or react to specific attribute demands from customers. The challenge is to define each product and then to monitor the production process to deliver on each product characteristic. To define product characteristics, a deep understanding of the customer is needed. This leads to the development of stronger relationships with the customer, as opposed to a focus on sales.

4. Pre-fabrication of building systems has become a widespread phenomenon. Wood product manufacturers can be the preferred suppliers for pre-fabricated systems, and may even want to consider making an investment into pre-fabrication themselves.

The homebuilding process will continue to experience a shift from the construction site toward factories. This process, called industrialization of homebuilding, comes with increased engineering and design activities. This industrialization happens through five channels – the pre-fabricated homes segment, the structural components segment, the building material dealers segment, integrated homebuilders and integrated wood product manufacturers. Over the past ten years, the structural components industry has consistently yielded higher returns than the lumber industry.

5. The non-residential construction market needs dedicated products and fabricators prepared to provide those products. This is one of the few opportunities at the higher volume scale available to the wood products industry.

The value of the non-residential market is at least 90 percent that of new residential construction. While the market share for wood is only 17 percent, the potential for wood could be anywhere from 50 to 60 percent. The relationship with non-residential suppliers is a rich one for those committed to developing new products. At present, the market lacks non-residential, wood-based, building material specifiers who supply turnkey solutions.

Learn more

To find out more about the Bio-pathways II project and how Canada's forest industry is moving up the forestry value chain: www.fpac.ca/bio-pathways, www.fpinnovations.ca/bio-pathways.

