

## TRANSFORMING CANADA'S FOREST PRODUCTS INDUSTRY

### Clean energy, high employment, economic recovery

The Forest Products Association of Canada's (FPAC) first-of-its-kind, comprehensive study, the *Future Bio-pathways Project*, demonstrates that Canada's forest products industry is ideally positioned to excel in the 21<sup>st</sup> Century bio-age.

Integrating new bio-technologies within the traditional forest products industry will enhance the industry's product mix and maximize the "triple bottom line" – clean energy, high employment and economic recovery.

Years of intensive research and development have produced technologies that can transform wood fibre into a variety of bio-products including bio-energy to heat homes and operate vehicles, bio-chemicals for solvents, renewable plastics and cosmetics, and innovative bio-materials such as 'intelligent' paper and engineered wood products.

#### THE BIO-PATHWAYS PROJECT – THE METHODOLOGY

- In 2009, FPAC set out to discover which business model holds the greatest promise for the future of Canada's forest products industry. It looked at a mix of emerging bio-technologies and traditional forest product operations to determine which options maximize economic, social and environmental returns – and to determine where Canada has a unique advantage.
- Investigators analyzed 16 traditional and 11 emerging bio-technologies to assess how wood fibre could be used to generate clean bio-energy, bio-fuels and bio-chemicals and a broad host of other bio-based products. A concerted effort was made to examine both technologies close to commercialization, and those in development and expected to be market-ready in the next few years (3-5).
- Three initial lines of inquiry were pursued to:
  - Gauge the market readiness of emerging bio-technologies
  - Quantify the economic, social and environmental costs/benefits of existing forest operations and emerging bio-products
  - Examine the economics of the wood fibre supply
- A rigorous research process analyzed each existing, traditional forest product and new technology by:
  - region
  - the size of the operation
  - the business cycle to establish the best return on investment
  - the greatest number of jobs and economic generators
- This is one of the first and most comprehensive studies in the world to meticulously examine such a broad range of options for the forest products industry, and across such a wide array of economic, social and environmental indicators.

### KEY FINDINGS

- ✓ Integrating the production of bio-products and bio-energy into the existing forest products industry is a winner on all fronts.
- ✓ By building on the sector's existing strengths and capitalizing on technological innovations, the forest products industry can play a lead role in stimulating the economy, securing jobs, producing clean energy and renewing rural communities while competitively meeting global demand for a wide range of environmentally-friendly products.
- ✓ Given the abundance of Canada's forest resource, the number of new technologies close to commercialization and Canada's global leadership in sustainable forestry, Canada has the potential to become a clean bio-energy and bio-product powerhouse. It is estimated that it will be able to produce clean energy on a scale equivalent to nine nuclear reactors or enough clean power to meet the energy needs of 2.5 million homes, or one out of every five homes across Canada.
- ✓ Traditional forest product operations *integrated* with bio-industries offer the best employment scenario. An integrated forestry operation – mix of traditional and bio-products - provides **five times** as many jobs as a stand-alone bio-operation (e.g. pellet plant).
- ✓ The lumber industry is the cornerstone to the competitiveness of the traditional and emerging forest products industry.
- ✓ The pulp and paper sector has stronger financial potential by integrating these new bio-products into their traditional mills.
- ✓ Both traditional and emerging industries enjoy higher economic returns when they are integrated rather than as stand-alone operations. They also offer greater stability to the forest products industry through product diversification.

### Forest Products Industry: An environmental leader

Members of the Forest Products Association of Canada are already among the world's leaders in adopting environmentally-friendly practices. Waste biomass constitutes almost 60% of the sector's energy use while 87% of Canada's paper comes from recovered paper and sawmill residues. Canada's pulp and paper firms have raised their production levels by 8% while reducing absolute greenhouse emissions by 57% below 1990 levels – **10** times Kyoto targets.

### CAVEATS

- Given these tough economic times, over the short term, the forest products industry cannot succeed on its own. Appropriate government policies and supportive programs are vital to keep pace with international competitors already transitioning to the bio-economy.
- Partnerships between traditional forest product companies and bio-technology providers, as well as with other industries, are essential.
- The U.S., E.U., China and Brazil are actively establishing policies and financial incentives to secure their future in the new bio-age. They are well on their way to capturing these opportunities and attracting investments. Canada can do no less.

## WHAT HAS TO HAPPEN

### Industry needs to:

- ✓ Mobilize for change and adopt and embrace transformation
- ✓ Transform business lines to incorporate the production of new bio-products
- ✓ Form cross-sectoral partnerships – particularly among forest product companies and bio-technology providers, but also with other industries – which are crucial to future commercial success and businesses' ongoing competitiveness

### Governments need to:

- ✓ Develop a Made-In-Canada clean energy action plan that will help Canada become a clean energy economy and advance the development of Canadian technology;
- ✓ Create a repayable revolving fund that addresses the need for capital investment in clean energy;
- ✓ Leverage the tax system (eg: creating a capital investment tax credit similar to the US approach) to encourage private sector investment in a new, integrated forest products industry;
- ✓ Expand and extend existing government programs (eg: commercial adoption and pilot demonstration programs) that drive the integration of clean technology in the forest products industry;
- ✓ Increase investment in research, development and innovation.

## NEXT STEPS

The findings of the *Future Bio-pathways Project* reflect only the first phase of analysis. What's clear from the preliminary research is that, while the bio-product markets are still in their infancy a number of technologies hold considerable promise and are worth serious exploration.

During the next phase of research, beginning in early 2010, FPAC will build on this effort to explore: new approaches to managing the value chain; opportunities to develop cross-sectoral partnerships; completion of the carbon footprint analysis, and gauge the market potential for wood-based bio-products.

The *Future Bio-pathways Project* has already confirmed that, with the right investments, policies and incentives, the Canadian forest products industry has a strong, green and prosperous future. It can be revitalized and can emerge from the recession as a renewed engine of economic growth in Canada.

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