

 CANADA'S FOREST PRODUCTS INDUSTRY

EXPECT US IN THE UNEXPECTED

The Canadian forest products industry has overcome significant challenges and is now unleashing its enormous potential as a global leader in transformation and breakthrough innovation — a revolution that will result in significant economic opportunity and jobs. More and more surprising uses are being discovered for wood fibre — everything from clothing to car parts, from cosmetics to chemicals to advanced construction systems and more. Under Vision2020, the industry has committed to generating an additional \$20 billion in economic activity through new products and markets.

Using “green” bio-products in traditional consumer goods would be good for the planet as it would decrease the product’s carbon footprint and reduce overall reliance on fossil fuels. Canada is uniquely positioned to be a supplier of these value-added eco-friendly products because of our abundant renewable forest resource. The Canadian forest products sector is poised to lead the global revolution in developing game changing technology from wood fibre by leveraging our unique innovation system of strategic partnership alignment, pooled resources, and targeted research which involves governments, industry, research bodies, academia and others.

THE AUTO INDUSTRY

Wood fibre can be used to produce high strength composite auto parts that are lighter and reduce vehicle emissions. Interior trim and other plastic components can contain wood-derived reinforcements. Lignin can replace carbon black in tires.

THE COSMETICS INDUSTRY

The iridescent properties of wood fibre at the nano-level have vast potential in products such as lipstick and nail polish. Wood cellulose can make cosmetic creams smoother and more luxurious. Sugars derived from wood can be used in a host of cosmetic products.

3D PRINTING

Wood fibre has the potential to play a major role in the largest manufacturing revolution this century — providing substrate for 3D printers from lignin, an affordable and renewable by-product of pulp mills.

THE RENEWABLE ENERGY INDUSTRY

Forest companies are becoming energy self-sufficient, thus removing the need for fossil fuels by using pulping by-products and residues such as bark, shavings and sawdust to produce greener electricity. Many mills are selling energy to the grid. The Canadian sector now produces enough green energy to power all of the houses in Calgary.

THE GREEN CHEMICALS INDUSTRY

Bio-methanol produced as a by-product at traditional pulp mills can be used in windshield wiper fluid, plastics, glues and fabrics or be blended with gasoline to fuel cars. This is just one example of the almost endless opportunities for bio-based chemicals from wood.

GREENING OTHER INDUSTRIES

Wood-based chemicals can be developed to help the oil and mining sectors remediate tailing ponds and landfills. For example, cellulose nanocrystals can be added to drilling fluids to minimize loss in geological pores. This could represent a large-scale commercial potential.

COOL COMPOSITES

Cellulose products can be used as a substitute for glass fibres in reinforced plastics that could be used in eye glass frames. Research is continuing on making carbon fibre from lignin that could be used in high-end sporting equipment such as bicycles, golf clubs and tennis racquets. Sugar streams generated from wood can be used in a range of bio-plastics including medical applications such as bone implants.

Canada is a world leader in forest innovation because of a unique culture of working together, a shared vision, a tradition of pooling resources, and a targeted research environment that aligns with industry needs to increase the likelihood of commercialization.

The Forest Products Association of Canada (FPAC) has been a driving force in identifying innovation opportunities, creating a transformation vision, and aligning the industry's innovation system to realize those opportunities.

The federal government has invested \$1.8 billion since 2007 in strategic programs such as Pulp and Paper Green Transformation Program, Investments in Forest Industry Transformation (IFIT), market opportunity programs and in critical research funding through the Transformative Technologies Program (TTP). These investments have included the creation of Pilot Scale Demos and market development for further commercialization.

FPInnovations has emerged as the world's largest public-private R&D partnership dedicated to the forest sector and is the catalyst for our innovation system. The Forest Innovation by Research & Education (FIBRE) network involves 27 universities, 100 professors and 400 students. Provincial governments have added their muscle, with strategies and roadmaps to complement and leverage efforts at the national level, as well as providing support for FPInnovations.

Right now Canada is scoring many world firsts and is well positioned to lead the international race and take market advantage of the remarkable new range of products that can be made from renewable wood fibre. Our collaborative approach will be the key to our success.

**TO LEARN MORE ABOUT INNOVATION IN
CANADA'S FOREST PRODUCTS INDUSTRY
CHECK OUT OUR BROCHURE**

***FOREST INNOVATION:
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FPAC advocates on behalf of the forest sector. FPAC is also working to realize the ambitious goals of Vision2020 to help the industry transform with innovative new products, diversified markets, enhanced environmental credentials and a skilled workforce. FPAC is proud to represent Canada's largest producers of forest products.

All FPAC members are signatories of the Canadian Boreal Forest Agreement. Our members are responsible for 66% of certified forest lands in Canada. Third-party certification of member companies' forest practices is a condition of membership in the Association — a world first.