

# WHAT'S UP IN Canada's Forest Sector?

APRIL 2010

WOOD AND THE 2010  
OLYMPIC GAMES

MEASURING A CARBON  
FOOTPRINT - FROM  
CANADA TO JAPAN

THE BENEFITS OF  
BEING CARBON  
NEUTRAL

## *Did You Know?*

*When Vancouver, British Columbia, hosted the 2010 Winter Olympic and Paralympic Games earlier this year, Canada's forest industry shared the stage with athletes from around the world through world-renowned innovations in green building technology. This issue of What's Up in Canada's Forest Sector takes a look at some of the many structural and architectural applications that helped the Vancouver Olympic Organizing Committee address its sustainability targets.*

## **Wood in the Olympics Spotlight**

From the soaring wood roof of the Richmond Oval to a lectern carved from a submerged log - the 2010 Olympic and Paralympic Winter Games in Vancouver, British Columbia, featured innovative and creative uses of wood.

The spectacular examples of what's possible with wood construction and design included the iconic Richmond Olympic Oval, the Trout Lake Rink, the Whistler Nordic Centre and the Vancouver Trade and Convention Centre. Each day, viewers from around the globe witnessed the beauty of wood design.

Following are some of the many examples of how Olympics organizers drew on Canadian expertise and high-quality wood species, dimension lumber and glue-laminated (glulam) beams in Games venues.

*Continued on Page 2*



### Did You Know?

*Resource managers* in Canada make sure forest practices consider and *accommodate habitat* needs to support *healthy wildlife* populations.

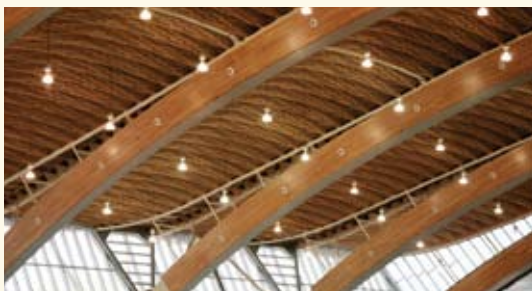
## Wood is a Proven Environmental Choice

The 2010 Olympic venues are one more example of building professionals choosing wood for green construction designs because it minimizes the use of energy, water and materials, and reduces impacts on human health and the environment.

Wood products are an excellent environmental choice for new construction or renovations because managed forests are efficient carbon sinks as long as they are regenerated, and wood products store carbon for decades, or longer. By using wood in the Richmond Olympic Oval structure, the total potential carbon benefit – resulting from carbon storage and avoided emissions – was an estimated 8,800 metric tonnes of carbon dioxide, or the equivalent of removing 1,600 cars from the road annually.

The Oval took this one step further by using wood from forests in British Columbia's Interior affected by mountain pine beetles. There are environmental benefits from using the fibre for durable wood products rather than letting the trees decay and release carbon dioxide to the atmosphere.

"The Oval roof demonstrates mountain pine beetle wood is a good material and can be attractive," says Greg Scott, director of major projects at the City of Richmond. "While it won't address the epidemic directly, showcasing the use of the wood will hopefully encourage its application elsewhere."



The unique all-wood roof structure of the Olympic Oval used advanced wood engineering, and includes one of the world's largest clear spans.

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## Wood in the Olympics Spotlight *Continued from Cover*

### Richmond Olympic Oval

The Richmond Olympic Oval (<http://richmondoval.ca>) was the signature structure of the Games with a unique all-wood roof structure made possible by advanced wood engineering. The roof covers about 2.4 hectares, featuring glulam beam arches - including one of the world's largest clear spans - and prefabricated one-of-a-kind wood wave panels.

The roof system has about one million board feet of 2x4 spruce-pine-fir commodity dimension lumber - primarily from trees affected by the mountain pine beetle. Another one million board feet of Douglas-fir lam-stock lumber is found in the glulam beams and about 19,000 sheets of four-foot-by-eight-foot Douglas-fir plywood in the roof panels.

### Modular Housing

Britco Structures ([www.britco.com](http://www.britco.com)) designed and built a 100-room lodge and a 20-unit townhouse complex in the Whistler Olympic and Paralympic Village. Britco also supplied, in modular form, temporary wood-frame based buildings to accommodate up to 700 team officials staying at the Whistler venue. Britco Structures designs, manufactures, transports and installs custom-built mobile and modular buildings around the world, including workforce housing, office complexes, daycares, schools and classrooms, multi-family and seniors' housing.

### Vancouver Trade and Convention Centre

The interior walls of the Vancouver Trade and Convention Centre, broadcast centre for the Games, are covered with 6,000 planks of British Columbia hemlock. Morinwood Inc. ([www.morinwood.ca](http://www.morinwood.ca)) company set up a dedicated 5,000-square-foot manufacturing facility and adapted a German-built Kuka robotic arm into a specialized assembly cell to put together the one million individual parts - a first for the British Columbia woodworking industry.

### More About Olympics Venues

For more information about how wood was used in Olympic venues, including case studies examining the Olympic Oval, the Trout Lake Ice Arena and the Vancouver Convention Centre, visit [www.naturallywood.com/links.aspx?id=638](http://www.naturallywood.com/links.aspx?id=638).



Whistler Day Lodge, the Hub and starting point for all Whistler Olympic and Paralympic Park's recreational activities.

## Game Venues Respect all Values

Just as Canadian forest managers take care to consider all values when managing forests, organizers of the 2010 Winter Olympic and Paralympic Games made sure that they considered environmental and social needs when planning venues.

Construction and management strategies and practices minimized impacts where venues were located within or near protected areas or areas of high biodiversity value, and studies and inventories identified areas where at-risk species might exist so these could be avoided. Where this was not possible, mitigation plans were developed. For example, cross-country skiing trails were designed to minimize risks to species and habitat, including grizzly bear habitat.

The Games were held on the shared ancestral territories of four First Nations - the Lil'wat, Musqueam, Squamish and Tsleil-Waututh - who entered into an historic Protocol Agreement where they agreed to coordinate their collective efforts to host and support the 2010 Olympics.

# Canada's Diverse Wood Sector: Structurlam

The 2010 Winter Olympic and Paralympic Games came at an ideal time to let Structurlam Products show what is possible when wood and advanced technology are combined.

Structurlam Products, which manufactures glulam beams and complete heavy timber packages, made significant investments in European 3D modelling software and CNC (computer numerical controlled) technology over the last decade. This was put to good use in several Olympic venues – including the Richmond Olympic Oval, crown jewel of the Games.

“Without the technology, we could never have achieved the results we did,” says Structurlam President Bill Downing. “With the Oval, we were able to shape eight glulam beams to less than one millimetre of accuracy for each of the 300-foot spans. Imagine doing that by hand.”

Structurlam specializes in commercial and institutional projects, and Downing sees tremendous opportunities to provide sophisticated heavy timber packages in Asia, possibly through joint ventures. Structurlam has supplied many packages to Asia in the past but has never pursued the market aggressively. With the exposure generated from the Olympics, the company is well positioned to re-enter the Asian market.

“It's not easy to bring a design to life using wood, especially with today's designs of ever-increasing beauty and complexity,” says Downing. “By being at the forefront of technology, we can show the world the advantages, in terms of strength, beauty and sustainability, of building with wood.”

## The Benefits of Being Carbon Neutral



Canada's forest products sector aims to be carbon neutral by 2015, without having to buy carbon offset credits – and that's good news for industry, customers and the environment.

“We want to strengthen the forest sector in Canada, meet high customer expectations and do the right thing for the environment,” says Mark Hubert, vice president, climate change leadership for the Forest Products Association of Canada (FPAC). “Climate change is a top environmental concern today and becoming carbon neutral is one of the most significant steps the forest products sector can take to reduce its overall environmental footprint.”

The carbon neutral initiative was undertaken by FPAC, Canada's largest industry association, with the support of World Wildlife Fund-Canada, but the benefits will be felt across the entire Canadian forest products value chain and into other sectors. And since greenhouse gas emissions have global impacts, reducing them will yield global benefits.

Forests, soils, biomass and forest products have a key role to play when it comes to climate because they all have the potential to store carbon. At the same time, greenhouse gases are released through harvesting activities, manufacturing, transportation and product disposal. The Canadian initiative considers this entire carbon cycle from forests through the forest product value chain.

“The Canadian forest industry can make a difference by reducing emissions and storing more carbon,” Hubert said. “For example, emissions can be reduced if mills increase their use of energy from renewable sources such as biomass or transportation networks are improved. Carbon storage in the forest may be increased through optimizing rotation ages, and through alternative harvesting and planning techniques that consider carbon along with other values such as biodiversity.”

A CO2 Neutral Alliance is being established to help businesses along the forest products value chain lower their greenhouse gas emissions, and work with others to generate positive action on climate change. Those being invited to participate include major customers, retailers, banks and governments – all part of the forest products value chain.

# Delivering Legal, Sustainable Products

British Columbia's Minister of Forests and Range, Pat Bell, has commended Japan for a proactive stance in ensuring forest products come from legal and sustainable sources – while explaining how British Columbia can meet Japan's tough procurement laws.

In a letter to Mr. Taisuke Shimada, Director General, Forestry Agency Japan, Bell said British Columbia feels “our role in protecting the world's forests is first to manage our forests sustainably, and second to work with like-minded partners such as Japan to improve forest management around the globe”.

He cited examples of how British Columbia makes sure its forest products are from legal and sustainable sources, including a strict regulatory framework backed by a comprehensive compliance and enforcement program. He pointed out that studies have shown that illegal logging in Canada is, for practical considerations, non-existent.


Many Canadian companies also have independent third-party forest certification to provide added assurance to customers that products are from responsible and legal sources. At the end of 2009, Canada had close to 150 million hectares of certified lands – which includes 62 million hectares in British Columbia.

## Did You Know?


Canada has more *publicly owned forest land* than most other forest producers, and this land is managed to *safeguard natural diversity* and address the interests of all users.

## BRIEFS

### BRITISH COLUMBIA PROMOTES WOOD FIRST

 **VICTORIA** The British Columbia government is leading by example with a Wood First Act requiring that wood be considered as the primary construction material for provincially funded building projects. This is an effective way to generate demand for British Columbia wood products and promote climate-friendly construction for industrial, commercial, institutional and mid-rise residential projects.

### WOOD BUILDING PASSES SEISMIC SAFETY TEST

 **VICTORIA** A unique earthquake simulation in 2009 showed that a six-storey wood building can perform safely in a major earthquake. The research, led by the Network for Earthquake Engineering Simulation, provided key information about how mid-rise, wood-frame buildings would perform in earthquakes. A video of the test is posted at [www.hsd.gov.bc.ca/video/wood\\_shake.html](http://www.hsd.gov.bc.ca/video/wood_shake.html).

# Measuring a Carbon Footprint - from Canada to Japan

A recent study by the non-profit Athena Institute found that wood products continue to represent a positive store of carbon throughout their service life - even when they are shipped from Canada to Japan.

Athena was asked to develop a business-to-business, cradle-to-gate carbon footprint of Canadian softwood lumber delivered to Japan, one that considered resource extraction and forest management, lumber manufacturing, transportation by diesel truck to the Port of Vancouver and containerized shipping to the Port of Tokyo. It found that a cubic metre of Canadian softwood lumber delivered to Japan stores about 3.8 times more carbon than it emits through production and transportation.

"A lifecycle assessment approach to sustainability is the only way to create a level playing field for the vast array of building materials available in our global markets," says Jamie Miel, co-founder of the Athena Institute. "Despite the distances involved, Canadian softwood lumber remains a sound choice for Asian countries looking to reduce their carbon footprint."

This year, Japan expects to release a national greenhouse gas reporting standard to label both domestic and imported wood products, and China has set a target to lower its carbon dioxide emissions by 40 to 45 per cent from 2005 to 2020.

## Did You Know?

Most of Canada's forest area is **publicly owned** and managed by federal, provincial and territorial governments **on behalf of all Canadians.**

Forest management planning and decisions must **incorporate the views of all Canadians** and respect Aboriginal and treaty rights.

## RECENT PUBLICATIONS / VIDEOS



### Canada Wood has posted a video for developers and builders

showing the wood-frame construction is economically beneficial when compared with concrete construction because it is cost competitive and provides a high rate of useful space.

The English video is posted at [www.canadawood.org/video\\_clip.php?mid=15&size=1](http://www.canadawood.org/video_clip.php?mid=15&size=1), and it will soon be available in Japanese, Chinese and Korean.

## Did You Know?

**Forests play an important** role in responding to one of the most important environmental challenges facing society today - **global climate change.**

Canada recognizes that its forests are **carbon reservoirs** that can be managed to increase their potential as a sink and **renewable energy source**, in addition to their value in meeting **biodiversity and conservation objectives** and providing forest products to serve the needs of society.

About **eight per cent** of Canada's forest area is in parks and other formally **protected areas**, and conservation efforts emphasize representative examples of **biodiversity.**

## WHAT'S UP IN CANADA'S FOREST SECTOR?

What's Up in Canada's Forest Sector? examines Canada's diverse forest products sector and invites views from representatives of companies working with markets in Asia. Issued quarterly, it delivers the facts about forests, operations and products for buyers and builders in Asian countries who are considering Canadian forest products for their building, and pulp and paper needs. Contact us at [info@fpac.ca](mailto:info@fpac.ca) with comments and suggestions.

For more information, visit the Canada Wood website at [www.canadawood.org](http://www.canadawood.org) or contact your local Canada Wood office:

**China** Shanghai Tel: 86.21.5030.1126 **Beijing** Tel: 86.10.59251255  
**Japan** Tokyo Tel: 81.3.5401.0531 **Korea** Seoul Tel: 82.2.3445.3835/4

Front Cover Photo: The Richmond Oval was one of many venues for the 2010 Winter Games featuring wood. Canada's Christine Nesbitt, who won a gold medal in speed skating says: "I love it, it is the most beautiful - hands down, it is the most beautiful oval in the world. I really like skating on it."

## FOR MORE INFORMATION ABOUT CANADA'S FOREST SECTOR, VISIT:

The Forest Products Association of Canada ([www.fpac.ca](http://www.fpac.ca)) represents the largest Canadian producers of wood products, pulp and paper. Its website includes information about a variety of topics, including a Buyers' Guide to Canada's Sustainable Forest Products to help customers create a sustainable forest products procurement policy.

Forestry Innovation Investment ([www.naturallywood.com](http://www.naturallywood.com)) is a British Columbia government agency that delivers the facts about British Columbia's forests and how they are managed, and the province's high-quality, environmentally responsible forest products.



Increasingly, responsible buyers of forest products want to source from producers that adhere to the following 5 principles:

1. **Harvest legally.**
2. **Regenerate promptly.**
3. **Reduce waste and support recovery and recycling.**
4. **Reduce greenhouse gases and help fight climate change.**
5. **Welcome independent scrutiny of how they manage forests.**