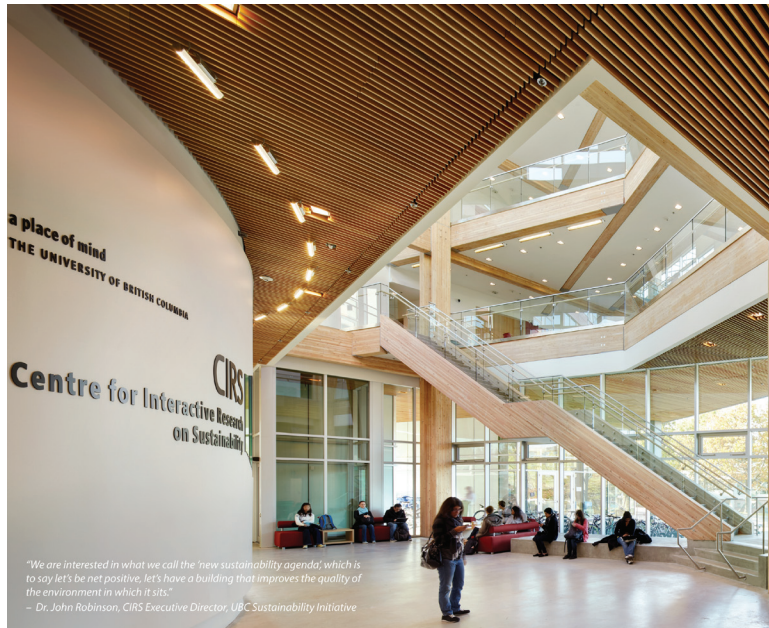


# Green Building

Peter Busby, Perkins+Will

Centre for Interactive Research on Sustainability, Vancouver, BC



*Elegant and extensive use of wood in combination with other systems throughout the building has resulted in an impressive sustainable building. The judges saluted efforts to measure and share its performance with the world.*

High resolution images available. Please e-mail [mmclaughlin@wood-works.ca](mailto:mmclaughlin@wood-works.ca)

Located at the University of British Columbia, the Centre for Interactive Research on Sustainability (CIRS) is designed to be the most sustainable building in North America. CIRS houses 200 researchers from private, public, and non-government organization sectors, who work together to advance innovation in sustainable technology and building practices, and to create a springboard for their widespread implementation.

The 5,675 sq.m 'living lab' is organized into two four-storey wings, linked by an atrium, and includes academic offices, meeting rooms, 'social condenser' spaces, and a daylight 450-seat auditorium. During the design of CIRS, both the ecological and human health impacts of the project's building materials, as well as the visual and tactile expression of the materials, were considered along with cost, durability, and maintenance requirements. In response, wood, one of the most sustainable materials in the world, was chosen as the primary building material.

Additionally, while CIRS itself had to be a sustainable building, the CIRS mission is to accelerate sustainability in society, so creating a building that was both high-performance and replicable was a priority. Competitive construction cost, efficient use of space and flexibility were all-important considerations that led the project team to choose a wood structure that utilized conventional construction methods. CIRS is the first large, multi-storey institutional building at UBC to be constructed of wood since the passing of British Columbia's 'Wood First Act'.

The expressed wood structure uses FSC-certified and pine-beetle-killed wood. The simple structure includes a combination of pre-fabricated glulam members, dimensional lumber, plywood and a minimal amount of concrete. The moment-frame structure creates an open, column-free

floor plate for flexibility of use and interior arrangements, as well as to allow for large openings in the walls, contributing to the project goal of 100 per cent natural daylight and ventilation for all inhabitants. More than a building, CIRS is a research tool that demonstrates the possibilities in sustainable design and construction, serving as a catalyst for change. Including an entire chapter devoted to the use of wood, a technical manual and website ([cirs.ubc.ca](http://cirs.ubc.ca)) further disseminate information with lessons learned, on-going updates, and actual performance data from the project.

Designed to exceed LEED Platinum status and registered with the Living Building Challenge, CIRS was designed to be 'net positive' in seven different ways: net-positive energy; structural carbon neutrality; operational carbon; net-zero water; turning passive occupants into active inhabitants; promoting health and productivity; and promoting happiness.

This 'living building' harvests sunlight, captures waste heat from a nearby building, and exchanges heating and cooling with the ground, and returns 600-megawatt-hours of surplus energy back to campus while removing 170 tonnes of GHG emissions annually. Supplying 100 per cent of the facility's water needs, CIRS collects rainwater for potable use and purifies wastewater in an on-site solar aquatics biofiltration system.

Produced by the sun and a means of storing carbon in the structure of a building, wood is one of the most sustainable materials in the world, which also supports an important sector of the regional economy. The extensive use of wood in CIRS reduced the carbon footprint compared to the average UBC building by almost 90 per cent.