



The use of wood in construction: technical and policy developments

7 November 2018, 9:00 - 12:00, Plenary

Scope and objective of the panel discussion

Wood has been used as a basic building material for centuries. With years, the scale and the way of using wood for construction changes but thanks to its unique and versatile characteristics, wood is still seen as an attractive material not only to build houses, but also variety of other constructions and products, e.g. furniture, boats and bridges.

More recently, the construction of tall buildings from timber, such as the Brock Commons – Tallwood House in Vancouver, indicates a growing interest in the building with wood at a height and scale not previously attainable.

Many researchers now consider the use of wood from well-maintained forests as one of the most important solutions for achieving the Sustainable Development Goals (SDGs). The greenhouse gases emitted to produce one tonne of sawnwood are about 13 per cent of what is required for the same weight of concrete, and less than 5 per cent of what is required for the same weight of steel. Aside from the low environmental impact of production, construction wood is easily recyclable to make other products; and at the end of its useful life, it can be turned into fuel for renewable energy production.

The supply chains for each common construction material – steel, concrete, brick, timber, cement, sand, aggregate – are quite distinct. But the supply chain for timber is unique compared to most other materials. While all other construction materials require rocks, ores or soils to be mechanically removed from the ground through landscape-demolishing open cast excavation, timber in contrast, requires that soil remains intact, seedlings can germinate, and forests continue to grow after any timber is harvested. Carbon sequestration is part of this lifecycle.

Even the longest forestry rotations are just a blink on any geological time scale, i.e. the time scale for the replenishment of the Earth's resources (rocks, ores, soils) required in the supply chain of other construction materials. In that regard, timber is the only widely used building material that can be considered truly renewable. Yet, increasing forest resources to supply more timber is a long-term commitment, and needs to be embedded in sustainable forest management practices that harness the benefits of forest products and services.

This session will explore holistic aspects of building with wood: it will highlight the functions, types and technologies of wooden buildings (large structures; residential buildings, earthquake resistant structures...). Experts will also address the policy challenges and opportunities of building with wood (social, environmental and economic issues such as building codes - e.g. prescriptive vs. performance based, environmental performance, bio-economy, costs)

This session is part of the seventy-sixth session of the UNECE Committee on Forests and the Forest Industry, organised in Vancouver, Canada, from 5-9 November 2018. Outcomes of this panel discussion will be concisely summarized in the report of the session. The detailed moderator's summary will be published on the website.



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Programme and tentative timetable

Introduction and presentation of key concepts

9:00 – 9:10 Welcome by the moderator, introduction of the topic and the panellists
Mr. Harald Aalde

9:10 – 9:30 Setting the scene – The Canadian WoodWorks Model: template to advance wood globally?
Mr. Peter Moonen
Q&A

Series of presentations on technical and policy developments; each presentation followed by Q&A

09:30 – 11:10 Wood construction: The role of research and education in overcoming barriers to growth
Mr. Iain Macdonald
Q&A
Resilience to disasters: the case for wooden structures
Prof. Jose Torero
Q&A
Indigenuity in Architecture
Mr. Alfred Waugh
Q&A
The State of public policies on wood construction in North America and Europe
Ms. Helen Goodland
Q&A
Challenges and opportunities for the wood construction industry in North America
Dr. Guido Wimmers
Q&A

Panel discussion

11:10 – 11:15 Statement – Youth perspectives
Ms. Chunny Varaich

11:15 – 11:50 Questions will be determined by the moderator and focus on:
Review of policy challenges and opportunities of building with wood
Discussion on what is needed to further advance the use of wood in construction

11:50 – 12:00 Open floor for the plenary
Conclusions and closing of the session

Further Information:

www.unece.org/forests/coffi2018

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Biographies of speakers



Mr. Harald Aalde is senior adviser at the Norwegian Ministry of Agriculture and Food since 2004. He has gained his MSc in Forestry from the Norwegian University of Life Sciences in 1994 and worked at the Norwegian Institute of Bioeconomy 1994-2004. His experience ranges from forest inventory, management of state ownership to domestic and international forest policy. He was involved in the development of several governmental policies and strategies, including white papers on agriculture and forestry policies to the Norwegian Parliament, and the Norwegian Bioeconomy strategy. He was also part of the secretariat of SKOG22, National strategy for the forest and wood sector in Norway.



Ms. Helen Goodland is the managing principal of Brantwood Consulting to which she brings over 30 years of experience working on transformative solutions for the real estate and construction industries in Canada and around the world. She is co-founder of Building Technology Innovations through which she provides advice and mentorship to start-ups focused on the construction industry. She is also an executive in residence for the BC Tech Association and she serves on the National Zero Waste Council's construction taskforce. Helen is an architect registered in the UK and has an MBA from the University of BC. She is also one of the BC Sustainable Energy Association's climate action heroes and has been nominated as a YWCA Woman of Distinction. In 2017, she received the Vancouver Regional Construction Association/s Outstanding Woman in Construction Award.



Mr. Iain Macdonald is Associate Director of the TallWood Design Institute. He has worked in business development and training roles in the forest industry for 19 years, prior to which he was involved in export marketing of forest products to Asia Pacific markets. Macdonald led the Centre for Advanced Wood Processing (CAWP) at University of British Columbia, Canada (UBC) for nine years, during which time he was a key player in efforts by the Province of British Columbia to stimulate and support the use of mass timber products following the passing of the Wood First Act. Iain holds degrees in marketing and professional education. He has significant experience globally in the design and delivery of technical and business education to workplace and professional learners, and in creating programs to stimulate innovation, entrepreneurship and business development. He is a director and past chair of the Wood Manufacturing Council.



Mr. Peter Moonen has a degree in Marine Biology and Zoology from UBC and has used that as a technical communications specialist to advance a better understanding of wood and the forest sector. He has more than 30 years' experience dealing with regulatory, environmental, sustainability and operational issues.

He is National Sustainability Manager for the Canadian Wood Council, the national association representing manufacturers of Canadian wood products used in construction and which provides technical support to build a strong wood culture in Canada through education, training and awareness.

He regularly presents on achieving greater sustainability and the appropriate use of wood in Asia,



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Europe and throughout North America to design professionals, educators and building officials. His work supports various industry associations, export marketing groups and both provincial and federal government departments including support of Canada's Corps of Trade Commissioners and overseas marketing groups in their work to sell Canadian products and services and opportunities for investment in the sector. He was a market reviewer specializing in wood and the green economy for the Forest Products Annual Market Review published by the UNECE Forestry and Timber section. He lives in Roberts Creek on the Sunshine Coast of BC.



Prof. José Torero holds the John L. Bryan Chair and is the Director of the Center for Disaster Resilience at the Clark School of Engineering, University of Maryland. He works in the field of Fire Safety Engineering where he specializes in the behaviour of fire in complex environments such as forests, tall buildings, novel architectures, tunnels, aircraft and spacecraft. He holds a BSc for the Pontificia Universidad Católica del Perú (1989), and an MSc (1991) and PhD (1992) from the University of California, Berkeley. He received a Doctor Honoris Causa by Ghent University (Belgium) in 2016. José is a Chartered Engineer (UK), a Registered Professional Engineer in Queensland, a fellow of the Australian Academy of Technological Sciences and Engineering, the Royal Academy of Engineering (UK), the Royal Society of Edinburgh (UK), the Queensland Academy of Arts and Sciences, the Institution of Civil Engineers (UK), the Institution of Fire Engineers (UK) and the Society of Fire Protection Engineers (USA).



Mr. Alfred Waugh specializes in culturally and environmentally sensitive projects and has extensive experience with First Nations, cultural societies, and educational institutions. His firm is dedicated to developing solutions that reflect the culture, community, and geographic regions specific to each project. The designs are a direct response to site context, topography, climate, and regional materials. And as part of a sustainable design philosophy, Alfred aims to maximize comfort, longevity, functionality, and energy efficiency. Alfred is Status Indian and part of Treaty 8. He was born and raised in Yellowknife, North West Territories, Canada, and was the first Aboriginal person to graduate with honours from UBC School of Architecture in 1993 and become LEED certified and a registered architect. He is influenced by native culture, the northern climate and frontier architecture and his connection to, and respect for, nature is inherent in his work. In 2005 Alfred established Alfred Waugh Architect (now called Formline Architecture), a 100 per cent Aboriginally owned architecture practice. The firm has developed a reputation for finely crafted cultural and sustainable buildings including the Squamish Lil'wat Cultural Centre completed in 2008 and the First Peoples House at the University of Victoria on Vancouver Island.



Dr. Guido Wimmers is Associate Professor and the Chair of the Master of Engineering Program in Integrated Wood Design. He holds a Master Degree in Architectural Engineering and a Ph.D. in Engineering Science from the University of Innsbruck. Prior to moving to Canada in 2007, he was leading the building physics department of Energie Tirol, and worked on modern timber design and Passive House Projects in Austria, Germany, and Italy, including large non-residential buildings. He was also involved in various research projects in the field of massive timber construction and prefabricated building envelopes. Guido is one of the initiators of Canada's first Passive House, Canada's first CLT application and Canada's first DLT application and has worked on sustainable



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projects all across Canada.



Ms. Chunny Varaich is part of the Master of International Forestry program at UBC and aspires to one day help tackle the unanticipated challenges of unsustainable resource practices.