Side event

"How to maximise embodied carbon in residential buildings"

Kursaal Congress Centre,

Arengo room, San Marino (Hybrid via Zoom)

22 November 2023 – 13:30-14:45 CEST

The UNECE/FAO Team of Specialists on sustainable forest products invites participants to reflect on how wood could contribute to maximizing embodied carbon in residential buildings.

In the near future, cities striving for carbon neutrality will have to significantly increase the share of wood in their portfolio of building materials.

Background:

Urbanization is one of the global demographic "megatrends" and the share of the world population in urban areas by 2050 is projected to increase from 55% today to 68% in 2050 (UN DESA 2018). This concentration also triggers a significant energy use and economic output. Cities are hotspots of the global carbon cycle, with considerable fossil fuel CO_2 emissions from electricity consumption, ground transportation, residential and commercial buildings (www.globalcarbonatlas.org).

In fact, global GHG emissions from buildings amount to the equivalent to 21% of the global GHG emissions. Of this, 57% are indirect emissions from the offsite generation of electricity and heat, 24% are direct emissions produced onsite and 18% are embodied emissions from the production of cement and steel used in buildings.

Globally, cement and steel used in buildings emitted 2.2 $GtCO_2$-eq, more than twice the amount that was reported for aviation (1.04 $GtCO_2$- eq) in 2018. Over the period 1990-2019, global CO_2 emissions from buildings increased by 50% (IPCC 2021).

Building-specific drivers of these increasing GHG emissions include the larger floor area per capita, driven by the rising size of dwellings while the size of households kept decreasing, especially in developed countries. In addition, the inefficiency of newly constructed buildings, particularly in developing countries, and the low renovation rates and low ambition level in developed countries when existing buildings are renovated exacerbate the problem (IPCC 2021).

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The good news is cities can actually achieve net-zero emissions. But this can only happen if emissions are reduced within and outside of their administrative boundaries through supply chains, which will have beneficial cascading effects across other sectors (IPCC 2021).

Wood produced from forests in the UNECE region is highly sustainable. Member States in the UNECE region have a long track record of managing the forests sustainably for their ecological, economic and social function and regularly assess their forests based on existing criteria and indicators. **Cities can trust in wood from UNECE region to be truly sustainable** (INForest).

Did you know that forests in the UNECE region are in effect an abundant source of more than 60% of wood and wood products in the entire world? More than 40% of the world's forests are in the UNECE region and over 80% of the global forests that are assessed by independent organizations for the sustainability of their management (forest certification) are in the UNECE region.

Maximizing the sequestration of carbon in long lived wood products is one of the best ways to increase the carbon pool outside forests.

Agenda:

Welcome remarks and introduction by Mr. Eoin O'Driscoll
Leader Team of Specialists on sustainable forest products

Speakers and panelists

"Lessons for end users and policy makers from embodied carbon in Canada"

Mr. Peter Moonen – Sustainability Lead, Canadian Wood Council, Vancouver, Canada

"Lessons from low carbon building in Italy"

Ms. Mikaela Decio* – *Corporate Environmental Sustainability Group Leader, Mapei Group, Milan, Italy/Director Green Building Council (GBC) Italia*

Moderated discussion by Mr. Chris Gaston
(Forest economics and markets, University of British Columbia, Vancouver, Canada)

Discussion

Summary and conclusions

Follow up and closing

Mr. Eoin O'Driscoll