



Nordic Wood in Construction Trends and SDG Opportunities & Trade-offs

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Nordic Wood in Construction Secretariat

Initiative set up by Swedish Government and Nordic Council of Ministers

Doing what?

- Support further development of the use of wood in construction in Nordic countries through projects that:
 - identify and break down barriers to using wood in construction, share knowledge, and increase Nordic cooperation

Why?

- Tackling the climate emergency but also financial, social and health co-benefits.
- Nordics are a shining example, but wood's full potential throughout the construction value chain is still to be realised...











Five trends identified across the cases











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Saving time and costs

Investing in scalability



Pushing the boundaries



Circular design

Trend 1: Multifunctionality





Flexibility increases the longevity of the buildings, improving the economic case and reducing environmental impacts of wooden constructions. This includes:

- Multifunctionality of use such as in Oodi (pg. 34)
- Ability to change and adapt spaces in the future as demands on the building change, demonstrated in BRF iValla (pg. 60)
- Production of easily replaceable wooden elements, such as Wave-layered timber (pg. 26)
- Forestry practices like at Metsä Group (pg. 18) that match user needs exactly to timber felling







Trend 2: Saving time and costs

Pre-fabrication of modular elements off-site can optimise the construction process and combined with local production reduce emissions from transport of materials, with added benefits of boosting jobs and expertise in the local economy. This includes:

- Creating more bespoke buildings matched to users' needs, as in Östra Sala Backe (pg. 44)
- Permiting work to take place year-round in more extreme climates like SkellefteåKulturhus (pg. 38)
- Leveraging local supply chains such as Mjøstårnet (pg. 64) allows for faster construction







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Changing long-established practices requires new technologies and ways of working, but several of the developers invest in timber construction in order to scale up over time. This includes:

- Developing the skills and expertise to take lead in a more sustainable construction sector in the future, e.g.
 Strandparken (pg. 58)
- Using public procurement as a driver for change, with timber construction playing into municipality climate strategies, as demonstrated by Lade School (pg. 40) and Herrestaskolan (pg. 36)







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Many projects showcased became the tallest or the largest timber project of their type on completion, and the Nordics are constantly challenging the possibilities of building in wood. This includes:

- Mjøstårnet (pg. 64) is set to become the world's tallest timber tower
- Knarvik Community Church (pg. 42) and Flatey Farm (pg. 52)
 demonstrates the adaptability of wood as a building
 material, allowing it to be used in almost any context.









Increasingly, designers are beginning to think about what happens to the building at the end of its life. This includes:

- Building components are designed to be disassembled, which will keep wooden elements higher in the value chain in their second life, such as Lisbjerg Bakke (pg. 48)
- Producers are rising to the challenge with products such as *Korkbyg (pg. 30)*, coming to market to provide circular alternatives to traditional building materials.
- TrÆls (pg. 70) and Saga Wood (pg. 72) to transform wooden 'waste' from the construction industry into new products and services.



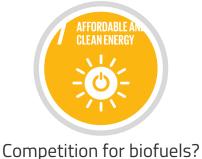




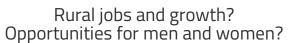
SDG Opportunities













Waste and reuse?



Resilience of forests to adapt? Mitigation potential?



Land degradation? Biodiversity?

Key findings

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- While negative impacts may be limited and positive impacts more abundant, the benefits will not be maximised by chance, and are heavily dependent on forestry practices.
- Nordic countries must, both in terms of public policies and forest management, manage the wood in construction value chain to strive towards contributions to the SDGs.
- There is a high demand for research and better knowledge on the impacts of SDGs in different stages in the value chain, pointing to a need for research financing.
- Moreover, while not necessarily a public responsibility, there
 is also a need for a platform for dialogue between key
 stakeholder groups to handle asymmetries in perceptions
 and knowledge.



What the experts said







There are good and bad forestry practices, what we choose is a matter of access to knowledge and policy

A **systems approach** is needed so that conflicting policies do not arise

A **strong legislation** and follow-up will be increasingly important

The **certification schemes** must be different from today



Key opportunities and barriers in the value chain





Sourcing of raw material

- + : Sequestration of carbon, Biofuels
- : Loss of biodiversity and climate adaptivity, Better regulation required, Ineffective certification

Production of building materials

+: Biofuels, Job opportunities

-: By-products (losses) in sawing

Housing and construction advisory

- + : Choice of wood reduces climate impact
- -: Design for recycling and reuse limited at present

Construction

- +: Less emissions in transport
- -: Some increase in packaging requirements

Use

- +: Easier reconstruction of buildings
- : N/A

Maintenance (reno., refurb., etc)

- +: Job opportunities
- -: Potential increase in maintenance of facades

Decommission

- +: Recycling and reuse potential
- -: Recycling and reuse requires design and construction criteria





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Improve policies, certification and forest management Make sure that potential conflicts between WiC and SDGs are understood and acknowledged

Handle perception and knowledge asymmetries which may negatively impact the support of SDGs

Consider mixed forests as an important climate adaptation measure Use means and design of construction to facilitate reuse and recycling of wooden materials

Not view wood in construction as a silver-bullet in reducing impacts through material choice



Our priorities for this year





Municipality Platform

- Digital platform to act as a roadmap and guide for Nordic municipalities.
- Advantages and pitfalls of building with wood.
- Public procurement and financing.
 - Developing wood construction strategies.

LCA Capacity Building

- Building capacity at a municipal level for how to use LCAs and wood.
- How do LCAs change the economic and environmental case for using wood?

Policy Analysis

- Strengths and gaps in Nordic policy.
- Dialogues at every Nordic Democracy festival.
- Connecting local, national and Nordic levels.



Discussion





- Are Nordic trends also seen in the Bioeconomy Region?
- What are the obstacles for building more in wood in your experience?
- Where is action needed? Local? National? International?
- How can the Nordic Wood in Construction Secretariat be of benefit to the community here over the coming year?

