

Södra's position on wood construction



Forests, a prerequisite for climate-smart construction

Forests have been helping to build our country's prosperity for generations. With more than 50,000 family forest owners, Södra is an asset to the country's economy, employment, vibrant rural communities and forest diversity. The raw material of family forestry is used to make wood products, building systems, paper and dissolving pulp, chemicals, energy and much more.

As we continue to refine and develop forest products for a more sustainable society, we occasionally encounter issues and challenges where we see a need for change and knowledge-sharing. In this summary, we highlight the main shifts that we believe are needed to contribute even more to the sustainable transition of the construction industry.

Why wood construction?

Sweden has a long tradition of using wood as a construction material. 85 percent of all single family houses in Sweden are built from wood, and multi-storey buildings with timber frames are becoming increasingly popular. Wood is a renewable and well-known building material that is produced in Sweden. It is easy to handle and process and has many climate benefits. Growing forests absorb CO₂, and the wood continues to store CO₂ throughout its entire life cycle. At the same time, wood replaces fossil materials and reduces emissions in the production stage.

In recent years, the development of wooden multifamily residential has made rapid strides. Wood halves

the carbon emissions of a building and creates a warm and inviting atmosphere, which has a positive effect on our health and creates a pleasant indoor climate. It is also possible to build industrially with wood, which increases productivity and material utilisation. Building large elements inside a facility reduces waste, ensures a safer process, creates a better workplace and reduces the need for transportation. It ensures a quality-assured and efficient construction process.

Wood construction enables circularity in the construction industry. Wooden buildings are easy to assemble, but can also be dismantled and rebuilt. Beams and components can be easily dismantled and reused in new

projects. Those parts that are not recyclable can be used for other wood-based products or for bioenergy.

How can wood construction be increased?

The construction industry's updated roadmap for 2045 contains ambitious GHG emissions-reduction targets. The goal is to achieve net zero emissions by 2045. An important part of achieving these targets is to increase the proportion of wood construction, which will contribute to a more sustainable construction sector.

To build a fair and comprehensive view of a building's total carbon emissions, we need to account for the entire life cycle of the building. At present, only the building's emissions



during production and construction are calculated. The CO₂ stored in the building over its life cycle is not included in the equation, and cannot be classified as a carbon sink or sold as carbon credits.

The limit values for the carbon emissions of buildings need to be tightened. The proposed limit values for 2025 are already achievable and will not therefore contribute to the construction industry's emissions-reduction targets. Climate declarations must also be harmonised across the EU and take account for the CO₂ stored during a building's life cycle. To increase the proportion of multi-storey timber-frame buildings and thereby build more climate-smart, the public sector needs to set tougher requirements in its procurements.

This will increase the proportion of wooden buildings while reducing the construction industry's carbon footprint.

Wood construction has a bright future. Research into multi-storey buildings with timber frames has accelerated. To make the best use of this knowledge, more skills and training are required at all stages. Labourers, construction engineers and architects need more information about the opportunities and best ways to build with wood. Södra is an important player here and can work together with higher education institutions to promote the development of wood construction. We need to push the education system to provide resources, research and educational plans to make wood an obvious choice of material

for the construction of multi-storey buildings. This is crucial for maintaining Sweden's role as a world leader in wood construction.

Furthermore, hybrid construction with different types of materials needs to be developed. No material can meet all needs and buildings with a combination of materials can therefore sometimes be the best solution, since different materials can complement each other to achieve the best results. One clear example of this is the interaction between concrete and wood, where concrete may be needed as both a slab and to provide stability via foundations in high-rise buildings. By using the right material in the right place, we can meet the unique conditions of every building.



Sustainable wood construction

Wood construction is definitely a growing trend. It is something we believe in, and is needed, because:

- Wooden buildings have a lower carbon footprint than comparable buildings constructed of steel and concrete.
- Wood is a renewable building material that stores CO₂ throughout the building's entire life cycle, while also replacing fossil-based and non-renewable materials.
- Wood construction can be industrialised, which makes construction faster, easier and safer. This also reduces construction waste.
- Wood is lightweight, which makes it superior for adding extra floors to existing buildings. Wood also requires less transportation.
- Wood creates a sense of warmth and comfort, a good indoor climate and a pleasant outdoor environment. It also contributes to a positive work environment.
- Wood has shorter lead times and enables more efficient construction, which reduces construction time.
- Wooden buildings are easy to both assemble and dismantle, which means that wood is well-suited to the circular flow of building materials.

What role does Södra's CLT play in sustainable wood construction?

Södra's CLT is composed of planed timber that is finger jointed and glued together into lamellas. The lamellas are then layered crosswise to form a solid panel of CLT. This creates a strong and rigid structural component with good dimensional stability. Using modern CNC technology, we can produce precise and accurately fitting components. We customise the elements in our facility with recesses for doors and windows, and slots for wiring and piping, which significantly reduces construction time on site.

Södra's CLT facility has a production capacity of 100,000 m³ of CLT per year. This enables the construction of apartment buildings and industrial facilities, and public buildings such as preschools, schools and hospitals. The location at Värö outside Varberg has been strategically chosen for its proximity to several growth regions across Scandinavia, and for easy shipping to the UK and other international markets. Production is co-located with Södra's pulp mills and sawmills, providing access to locally generated electricity and ready-made infrastructure. That also



creates good conditions for efficient logistics and allows us to make smart use of a larger part of the value chain.

We have ambitious goals for Södra's operations. We will halve our fossil GHG emissions by 2030 and achieve net zero fossil GHG emissions by 2040. But our journey will not stop there. We are striving to become climate-positive. Growing trees absorb CO₂ and when the forest raw material is converted into building material, for example, the same amount of CO₂ is stored in the

product throughout its entire life cycle. Sustainable construction with wood from Södra is part of the solution to reduce global emissions, while we are also stimulating productivity in the construction industry.

With Södra's experience of working with wood for frames, façades and interiors, and with an understanding of the entire process from seed to construction, we can contribute to sustainable construction and sustainable social development.

What political initiatives does Södra need to move forward?

National level

- Tougher limit values in climate declarations.
- A framework that accounts for all the climate benefits of a building, including a potential carbon sink, so that stored carbon is included or can be sold as carbon credits.
- A nationally binding target for increased wood construction in accordance with the national bioeconomy strategy's (SOU 2023:84) proposal.
- That the public sector sets low limit values for new construction in procurements and imposes financial sanctions on suppliers who do not meet these limit values.
- That research and development around wood construction is strengthened.
- That higher education institutions include more wood construction in their curricula.

EU level

- Harmonise climate declarations at EU level and include the CO₂ that is stored over the life cycle of a building.
- Accelerate efforts with the Carbon Removal Certification Framework, for the storage of carbon in products.
- Recognize the forest as a critical and strategically important raw material.
- Recognize the climate benefits of forests, not only as a carbon sink in standing forests but also as a supplier of renewable raw material.
- Focus on climate initiatives that are based on replacing fossil materials with bio-based products.
- Promote policy instruments and legislation that will realise the EU's ambition to build the world's leading bioeconomy.