

Swedish forestry – A Success Story

Swedish forests have been managed for centuries. Since the 1950s, industrial forestry has been practised in Sweden, with investments in replanting after harvesting and gradually developed forestry management methods. This has led to increased growth and volume of standing timber, while the amount of harvested forest has also increased. Since the 1990s, increasing consideration has been given to biodiversity, as more trees are left during harvesting and more land remains untouched.

The trees being harvested today were planted 80–100 years ago. At that time, there was no thought of either climate change or carbon sinks. Forest owners have cared for the forest for several decades to one day generate economic value from the renewable material provided by forest raw material. Carbon dioxide storage is a by-product. In recent years, more voices have advocated for leaving more trees in the forest to store carbon dioxide. It is said that the carbon sink has decreased since the 1990s and that Sweden risks missing its climate targets if we do not reduce harvesting. But the fact is that Sweden's forests store more carbon dioxide than ever before¹. With our large share of forest land, Sweden also stands out in Europe. And this is thanks to our active forestry. EU legislation is now penalising Swedish forest owners while property rights in the forest are being undermined. In addition to restricting one of Sweden's most important basic industries, it is a major step backwards for the climate transition. We believe that more would think like us if they considered the whole picture.

Strong demand for forest raw material

The forest plays a key role in the climate transition, and demand is expected to increase for both timber and pulpwood. But even though forest is a renewable resource, the availability of raw material is limited in several parts of the world, and the global timber supply is becoming increasingly strained. The background to the global timber shortage has several explanations. Canada has suffered significant bark beetle infestations, which have greatly reduced the annual harvest, while the country is also heavily impacted by forest fires. In Europe, attacks by spruce bark beetle have forced large parts of Central Europe to deal with infested forest. The war in Ukraine has also affected the supply of timber raw material on the European market, as imports from Russia and Belarus have been halted due to EU sanctions. In recent years, the supply of forest raw material has not been sufficient to meet the needs of the forest industry and the energy sector. Competition for the raw material is fierce, resulting in sharply rising Swedish timber prices.

In Sweden, we have managed forests for generations, and forestry is deeply rooted in our culture. Perhaps it is not surprising, given that only 3 percent of Sweden's area is built-up while almost 70 percent consists of forest. Despite our limited size, we are one of the world's largest producers of sawn timber and fibre products, a large portion of which is exported.

¹ [Skogen och Klimatet – vad säger forskningen?](#) Rapport Skog 2024:1. SLU, Umeå

Over the years, we have developed long-term and rational management of our forests and a well-developed forest industry. Over the past 100 years, the amount of forest in Sweden has doubled, while harvests have increased. When many other forest nations face significant supply problems, the global significance of products from Swedish forests is increasing.

Clear-cutting forestry – rational forestry adapted to Nordic forests

Clear-cutting is the dominant forestry method in Sweden since the 1950s. Both scientific research and practical experience show that this method can maintain high growth and harvesting levels over time. By systematically rejuvenating forests through successive final cuttings, it is possible to maintain a productive forest landscape while preserving ecological values. Compared to other forestry methods, clear-cutting generally results in higher growth, greater timber production, and better economic returns. It is a rational and economically sustainable forestry method that also creates opportunities for improvement measures to enhance and strengthen the natural values in managed forests.

The purpose of clear-cutting is to maintain a balanced age-class distribution in productive forests. This means that the forest area is evenly distributed among all age classes in different stands – from newly planted to harvest-mature forest. The method provides high growth, creating the conditions for an expanding bioeconomy and increased carbon sequestration over time, while maintaining a balance between production and environmental goals.



The basis of clear-cutting is that the oldest age class is harvested and then replaced by a new regeneration area. Over time, all remaining age classes shift one year closer to harvest maturity. This cyclical structure creates a predictable and continuous supply of timber, where an equal share of forest reaches harvest age year after year. When the age-class distribution is balanced – that is, when there is roughly the same area of forest in each age class – it also becomes possible to maintain a consistently high and even harvesting level across the landscape, generation after generation.

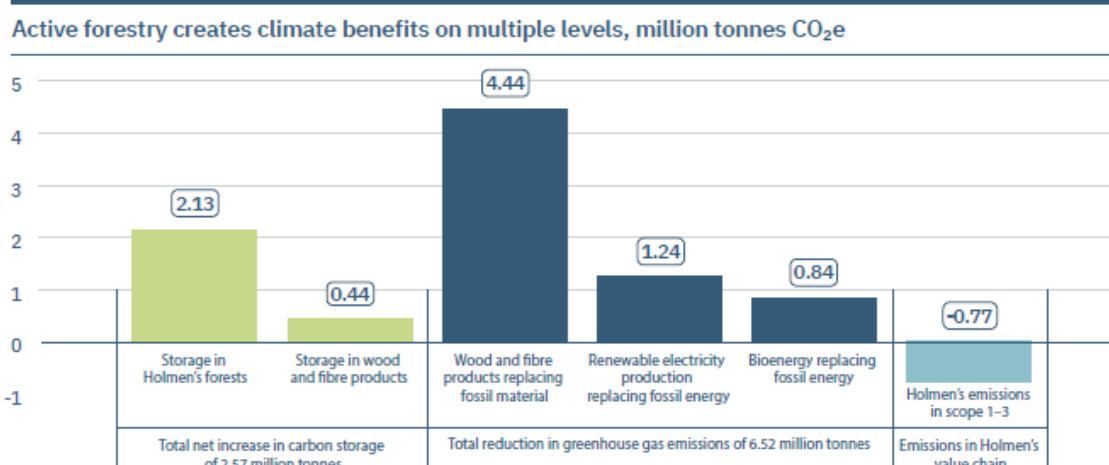
Swedish forests are part of the European taiga – an enormous forest ecosystem stretching from the Ural Mountains deep in Russia to the Norwegian Atlantic coast. Despite significant variations in climate, soil conditions, and topography, the entire area has more or less the same type of ecology. In the taiga's forests, the majority of nutrients are stored in the mineral-rich soil rather than in the living biomass, which creates conditions for recurring forest growth. Taiga forests are naturally adapted to recurring disturbances such as storms, fires, and insect attacks. Nearly all Swedish forests have experienced wildfires, often several times per century. These natural disturbances have shaped Nordic forests for thousands of years. Modern clear-cutting mimics many aspects of the natural disturbances that have shaped our ecosystems. Final felling followed by soil preparation and replanting simulates the effect of fire, creating conditions that favour the dominant species in Swedish forests – pine, spruce, and birch.

The forest's contribution to climate transition

The forest's cycle gives us timber. The timber is refined into products, which our customers can in turn process further. As the life cycle draws to a close, the products can be recycled and reborn in new forms, or serve as biofuel. Wood can be reused, and fibre products such as cardboard and paper, once recycled, are essential for a functioning recycling paper system. Of the trees we harvest, nothing goes to waste. The highest possible refinement value determines what is produced from different parts of the trees, and the by-products generated are utilised in other processes.

The climate benefit begins in the forest, where trees absorb carbon dioxide as they grow. And when we actively manage the forest, it provides even greater climate benefits in the long term. Above all, because products from the forest replace fossil materials. But also because trees grow better when the forest is actively managed. Long-term and rational management of our forests has contributed to growing timber stocks and increased harvests over time. A growing timber stock binds and stores carbon dioxide, and after harvesting, forest raw material continues to provide benefits for a long time by storing carbon in long-lived products such as planks and timber frames and by replacing fossil-based products with a higher climate footprint, such as steel, concrete, and plastic.

According to calculations for 2024, the total climate benefit² of the Swedish forest industry is estimated at 97 million tonnes of carbon dioxide equivalents (CO₂e). This climate benefit can be compared to Sweden's total emissions, which in 2024 amounted to 47.5 million tonnes. In 2024, Holmen contributed a climate benefit of 8.3 million tonnes of CO₂e. The carbon uptake from our growing forests and the storage in our products alone is three times greater than our total fossil emissions.



² Climate benefit is a concept that weighs in all aspects of the forest's climate impact. It includes carbon sinks in the forest and forest products as well as avoided emissions when forest products and bioenergy replace fossil raw materials and fossil-intensive products such as cement, steel, and plastic. Holmen's climate benefit is calculated according to [ISO standard 13391](#).

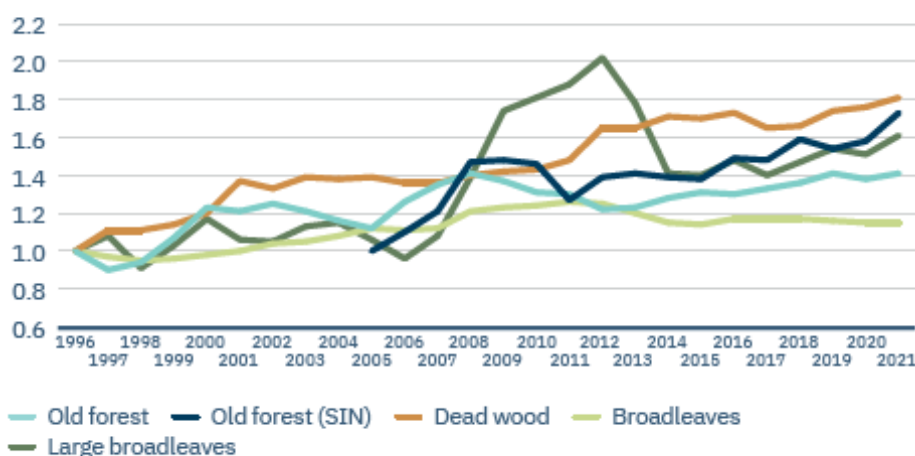
Thriving forests for future generations

As a Swedish forestry company, we are well placed to help with solutions to some of the world's major challenges for the future. Not least climate change. And we do this with nature as our foundation. This also means that our operations leave an imprint on nature. The management of forests can affect ecosystems and forest-dwelling species that depend on various habitats for their survival, for example, if the proportion of dead or old trees becomes too small. We have a responsibility for the traces we leave and for the biodiversity in our landscapes. Holmen's future depends on keeping the land and ecosystems viable.

The trees we plant today will grow for nearly a century before they can be harvested. Much can happen during that time. The forest can be affected by drought, fires, storms, and pests. Historically, biodiversity was not a priority in Swedish forestry, but over the past 30 years, the focus has shifted. Development has been rapid, and knowledge about how we can safeguard biodiversity and simultaneously increase forest growth is continually expanding. To monitor developments and evaluate implemented measures, Holmen has identified five indicators that show the health of selected key forest habitats:

1. Area of old forest
2. Area of old forest with specific indications of nature conservations value (SIN)
3. Volume of dead wood per hectare
4. Volume of broadleaves per hectare
5. Volume of large broadleaves per hectare

Positive progress for key forest habitats



Source: SLU National Forest Inventory

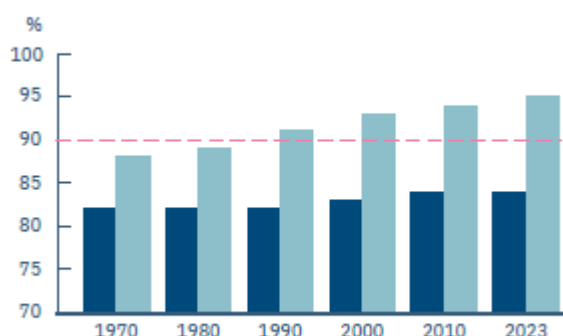
These indicators represent different types of habitats that together provide a broad picture of the conditions for biological diversity on Holmen's land. With a production cycle in the forest of nearly one hundred years, changes do not happen overnight, but statistics from independent inventories show that the development over the past 30 years has been positive.

Sweden's forests offer good conditions for biodiversity

International studies show that the status of biodiversity in Sweden has improved over the last 50 years, currently putting it well above the European average. The Biodiversity Intactness Index³ from the Natural History Museum in the UK models human impact on the natural environment and estimates how high a proportion of the original number of species and habitats still remain. The desirable level of biodiversity in an area is at least 90 per cent, which can be seen as a threshold value that biodiversity in an area must exceed.

Together with Finland, Sweden is the most forested country in Europe, with almost 70 per cent forest land and a well-developed forest industry. According to the Biodiversity Intactness Index, conditions in Sweden are also good for functioning ecosystems, with an index of just over 95 per cent. This can be compared with the global average of 77 per cent, significantly lower than the 90 per cent considered to be sustainable.

Biodiversity Intactness Index 1970–2023*



*90 per cent is a threshold value for healthy ecosystems.

■ Europe ■ Sweden

³ Natural History Museum. <https://doi.org/10.5519/he1eqmg1>