

How much wood can we expect from European forests?

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The energy crisis has shown Europe the need to become more self-sufficient in resources. Wood is one of those resources, used in the construction sector, for example, and is already largely produced in the EU itself. The demand for wood is still increasing. However, a new study

shows that the additional potential for wood harvesting is limited, and smaller than previously thought, unless more investments are made in afforestation and forest management.

Wood is a renewable resource, has many different uses, and is an important means of CO₂ storage. As such, it is not surprising that [wood](#) is increasingly in demand. But where should it come from? According to the study that was recently published in *Forestry: An International Journal of Forest Research*, a small increase in wood [harvest](#) in European forests will be possible. An international team from 10 European model regions has done research on how [behavioral change](#) by [forest managers](#) can lead to a sustainable wood harvest increase.

In addition, a literature review has been carried out into the ambitions of each European country with regard to wood harvesting. This has shown that an additional 90 million m³ of wood could be harvested annually from European forests in the next 10–20 years. When barriers are considered in detail, however, the potential turns out to be much smaller.

At the same time, forests are under pressure as a result of [climate change](#). If we want to produce more wood from European forests in the long term, we must invest in [forest](#) vitality and afforestation.

The wood increment is much larger than the amount harvested

"Every year, much more wood grows in Europe than we harvest. The difference between increment and harvest is called the theoretical potential for additional wood harvest," says lead author Bas Lerink of Wageningen University & Research. This theoretical potential amounts to about 250 million m³ per year.

Lerink says, "But only a part of it will be realistic. There are several reasons why it is better not to harvest in some forests. To prevent soil erosion or to protect biodiversity, for example. As a result, this theoretical potential will never be achieved." In the study, Lerink and colleagues have combined two ways to determine a realistic potential.

Realistic increase in wood harvest

The literature review was conducted based on national forest strategies and other policy documents. Based on this, the researchers determined each country's ambition to increase their wood harvest in the near future (10–20 years) on a current total harvest of approximately 546 million m³. In total, this will lead to a realistic potential of 90 million m³ per year for the EU and the United Kingdom.

In addition, the EFISCEN Space forest resource model was used to develop projections for future wood harvest in 10 model regions, based on forest inventory data. First, the model applied [forest management](#) regimes as currently carried out in the regions. Next, these were compared to a number of scenarios with more intensive management, derived from neighboring regions, for example.

This has shown that the realistic potential for additional wood harvest is much smaller than the literature review suggested, namely half, about 40 million m³. National forest strategies seem to overestimate harvesting possibilities.

The state of European forests

How does an increase in wood harvest relate to the current state of European forests? There are indeed concerns about the health of European forests. Climate change has greatly increased natural

disturbances (such as fires, diseases and pests) and CO₂ sequestration is already declining in some countries. Still, since the Second World War, there has not been as much wood in European forests as there is now.

A small increase in wood harvest (by the aforementioned 40 million m³ per year) still seems to be realistic. To give an idea of the scale, this is enough to build about 800,000 wooden houses in the EU per year.

"But in the long term, a larger wood harvest will only be feasible if forest restoration, afforestation and forest management improvements are already started now. These are important for Europe to become more self-sufficient," says co-author Gert-Jan Nabuurs. "Education, cooperation between forest owners and forest industry and governments will be necessary. This will make the EU less dependent on other continents, and also contribute to sustainable forest management with enhanced biodiversity in a bio-economy."

More information: Bas J W Lerink et al, How much wood can we expect from European forests in the near future?, *Forestry: An International Journal of Forest Research* (2023). [DOI: 10.1093/forestry/cpad009](https://doi.org/10.1093/forestry/cpad009)

Provided by Wageningen University

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