

Europe: Harvesting less?

Main findings of the Assessment of Possible Production Leakage from Implementing the EU Biodiversity Strategy on Forest Product Markets

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EU Biodiversity Strategy

Main objectives:

1. „Legally protect a minimum of **30%** of the EU's land area and **30%** of the EU's sea area and integrate ecological corridors, as part of a true Trans-European Nature Network”
2. “Strictly protect at least a third of the EU's protected areas, including all remaining EU **primary and old-growth forests**”
3. “Effectively manage all **protected areas**, defining **clear conservation objectives and measures**, and monitoring appropriately”

Many definitions of the EU biodiversity strategy have not been finally clarified and offer a high degree of **leeway for implementation** => framing of potential implementation by two scenarios



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Two alternative EUBDS- implementation scenarios for Germany

| EUBDS-Szenarios | Moderate implementation scenario (MSC) | Intensive implementation scenario (ISC) |
|--|---|--|
| 1.) Legal protection of a minimum of 30 % of the land area | <ul style="list-style-type: none"> - Natura 2000 sites and sites for natural forest development - Target value: 5.4 M ha | <ul style="list-style-type: none"> - All protection categories - Lower protections standards to be raised - Target value: 6.5 M ha |
| 2.) Strict protection of at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests" (= process nature conservation without timber use) | <ul style="list-style-type: none"> - All land use types proportionally contributing - Old growth forests: not existing - Target value: 1.3 M ha | <ul style="list-style-type: none"> - 0.5 M ha agriculture (wetland restauration), rest rendered by forests - Old growth forests: all forests beyond usual rotation ages - Target value: 4.3 M ha |
| Decline in annual Roundwood supply referred to the "WEHAM" base scenario 2012 (= 75,6 M m ³ for 2028-2032) | - 7.0 M m³ (- 9.3 %) | - 36.2 M m³ (- 47.9 %) |

Assumption: EUBDS objectives met from all EU member states to equal shares

Source: Timm et al. (2022); Schier et al. (2022)

Transfer of timber harvest limitation and market modelling approach

Simulation of three scenarios with the GFPM*

- Reference scenario° without EUBDS specification
- Moderate EUBDS scenario (MSC)
- Intensive EUBDS scenario (ISC)

Transfer of German results on roundwood supply reduction to all EU countries



Implementation of limited roundwood supply
- 9.3% (Moderate EUBDS scenario) and
-47.9% (Intensive EUBDS scenario)
as a cap on future timber harvest in the EU



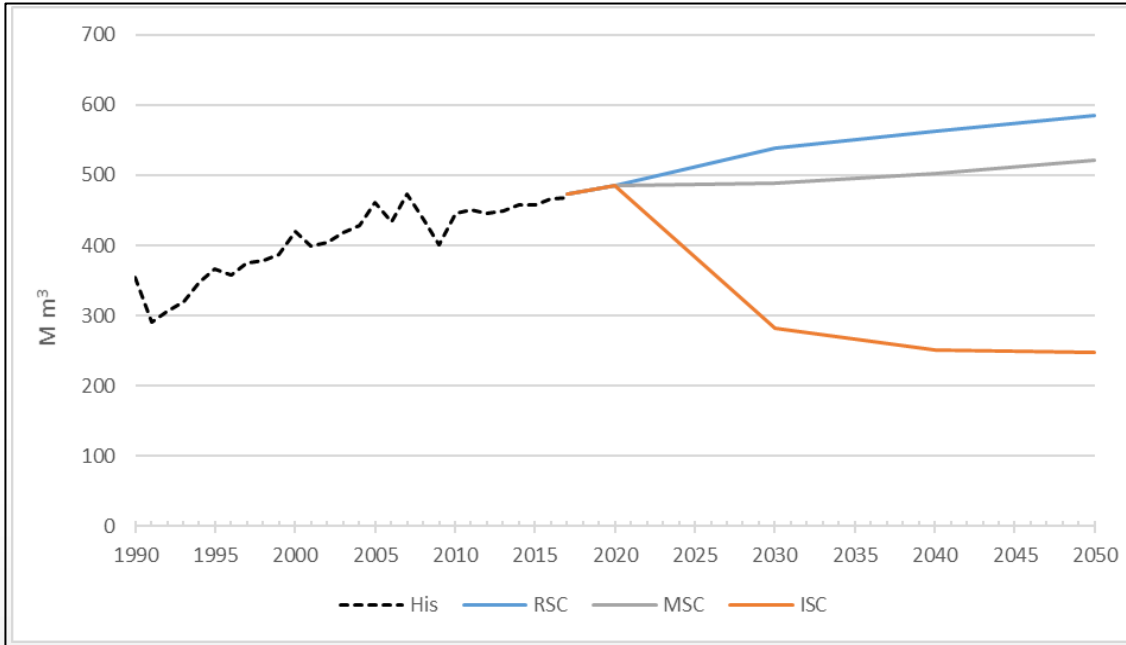
target years of fully implementation 2030;
simulation horizon until 2050

° SSP (Shared Socioeconomic Pathways) 2: “Middle of the Road”



* (Buongiorno et al. 2003, Schier et al. 2018), adopted from version 1-29-2017-World-500 based on data from FRA_2020, SSP2, FAOSTAT

EU roundwood production

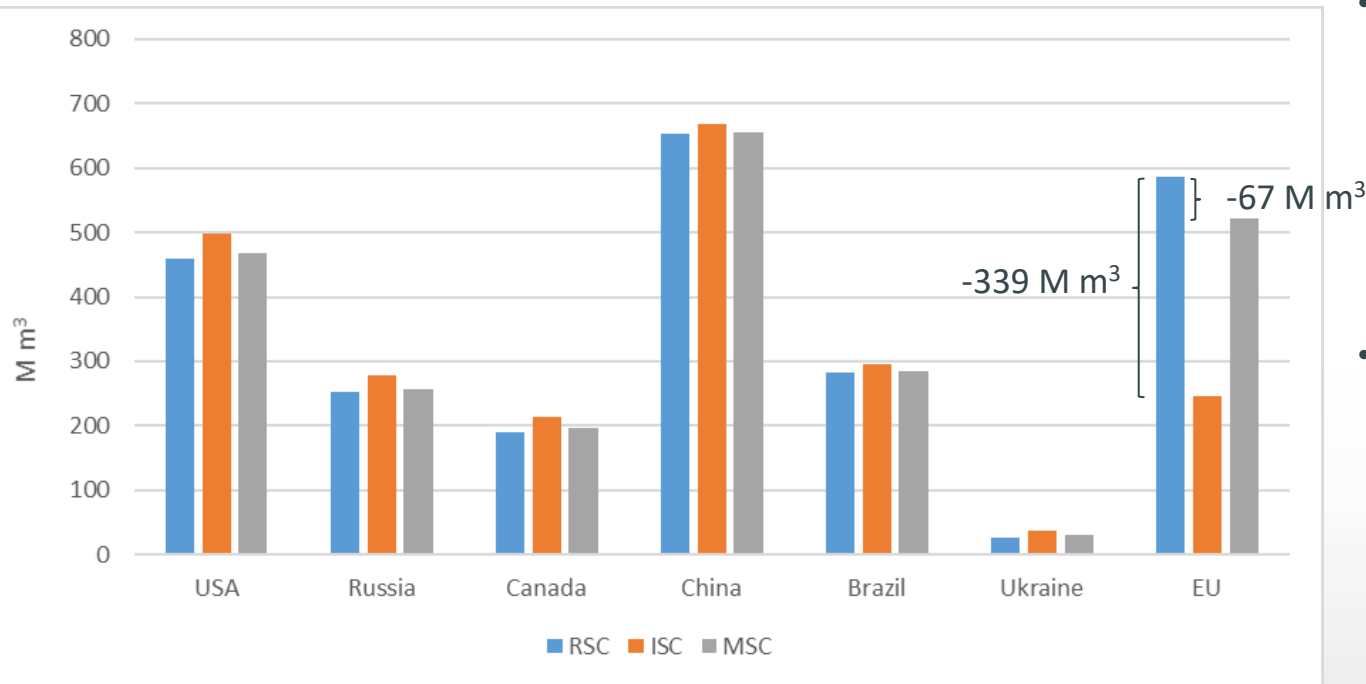


EU roundwood production (industrial roundwood + fuelwood)

- historical development (His) increasing from 1990 - 2017
- reference sc (RSC) increasing to nearly 600 M m³ in 2050
- moderate sc (MSC) increasing but - 67 M m³ lower than RSC in 2050
- intensive sc (ISC) decreasing and - 339 M m³ lower than RSC in 2050

Source: Schier et al. (2022)

Roundwood production in the EU and selected Non-EU-countries in 2050

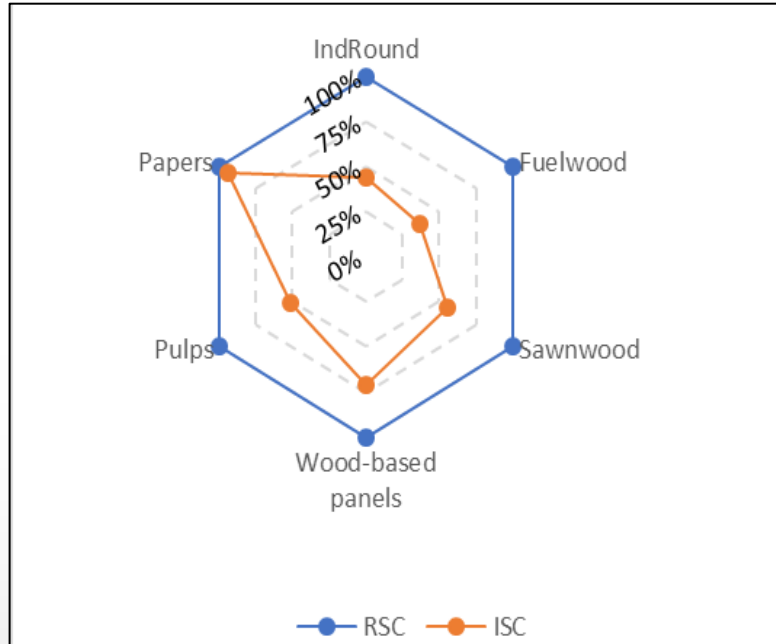


- 53% (or 179 M m³) of EU production decline (- 339 M m³ in ISC) to be compensated through a higher production in Non-EU-countries
- Remaining 47% not compensated on global scale (respective decline of global roundwood production)

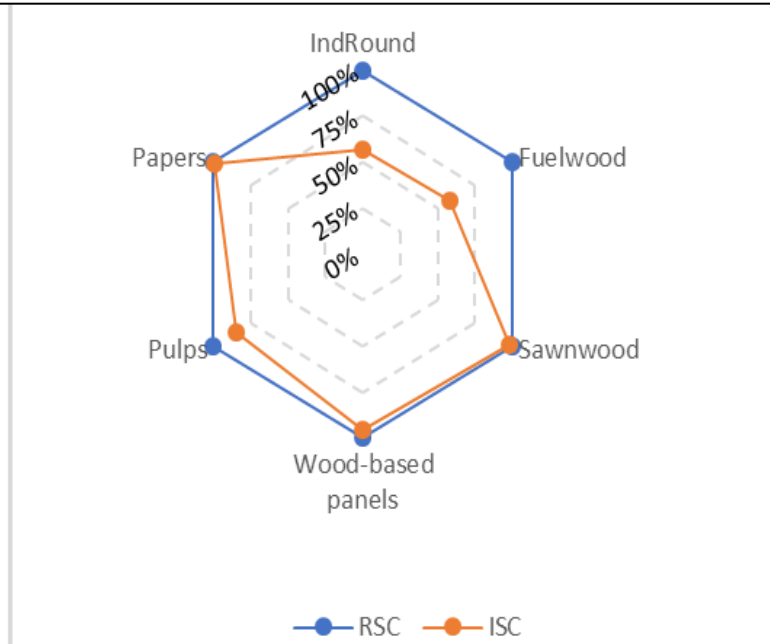
Source: Schier et al. (2022)

Relative changes in EU production and consumption 2050

EU production



EU consumption



- Lower EU production is compensated by slightly increasing imports and significantly declining exports in the sub-sectors

Source: Schier et al. (2022)

Relocation of production of wood products to selected third countries

Changes in sawnwood production

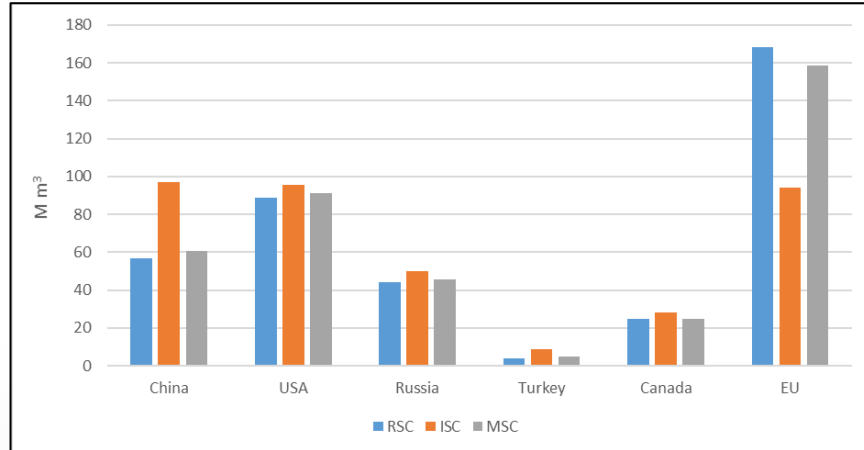


Figure 7. Sawnwood production of third countries with the greatest changes (ranking of countries is according to changes in ISC vs. RSC) and the EU in 2050

Changes in wood-based panels production

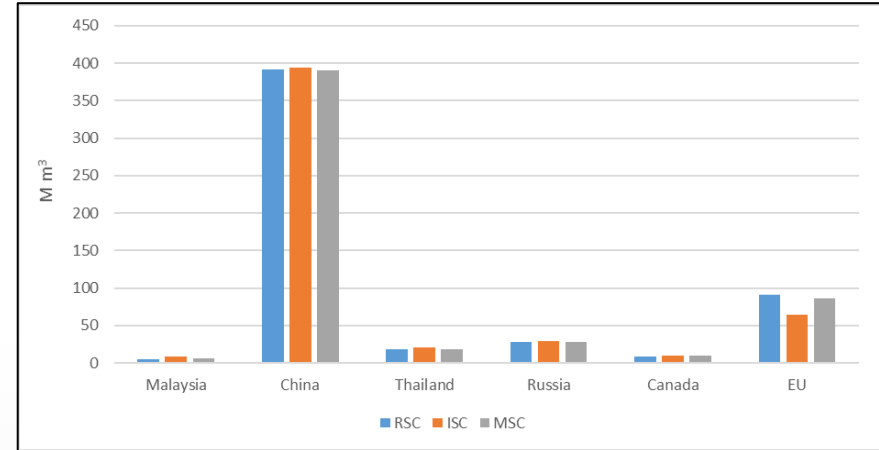


Figure 8. Wood-based panels production (including veneer and plywood) of third countries with the greatest changes (ranking of countries is according to changes in ISC vs. RSC) and the EU in 2050

- Especially in the Intensive Scenario, EU production volumes of the wood-processing industries decline compared to the Reference Scenario (RSC). In RSC production increases compared to present levels

Source: Schier et al. (2022)


Summary

- Lower EU roundwood production partly offset by increasing production in third countries
-> 179.1 M m³ (53%) in ISC and 40.6 M m³ (63%) in MSC
- and partly no longer produced worldwide
-> 160.0 M m³ in ISC and 24.1 M m³ in MSC
- Apparent domestic EU consumption of wood-based products remains rather constant across the scenarios
=> EU induced scarcity of wood hits in particular countries outside the EU
- Trade volumes vary across scenarios and product groups
- Imports are mostly higher than in RSC but do not compensate for lower roundwood production
- Especially in the ISC, export volumes of wood-based products are significantly lower than in RSC



Article

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Abstract: The EU Biodiversity Strategy (EUBDS) for 2030 aims at regaining biodiversity by strengthening the protection of nature in the European Union. This study models and analyses possible impacts of the EUBDS on the production and trade of forest-based products in the EU and non-EU countries in two alternative scenarios. Implementing EUBDS measures would allow a maximum EU roundwood production of roughly 281 M m³ in the intensive and 490 M m³ in the moderate scenario. Since in the reference scenario, the EU roundwood production amounts to 539 M m³ in 2030, this represents a reduction of -48% and -9% in 2030, respectively. Until 2050, the production further decreases and accounts for 42% and 90% of the reference production. Globally, the EU roundwood production deficit is compensated partly (roughly between 50%–60%) by increasing production of roundwood in non-EU countries (e.g., USA, Russia, Canada, China and Brazil) whereas the remaining share of the EU production deficit is no longer produced and consumed worldwide. In the EU, reduced roundwood availability leads to a lower production of wood-based products, although, apparent consumption of wood-based products remains similar. This is mainly caused by significantly lower export volumes of wood-based products and, for some product groups, by significantly increased imports as well. This is partly due to unchanged assumptions regarding income and thus, demand patterns. However, on a global level, decreased production and consumption of wood-based products could lead to a growing use of non-bio-based resources to substitute wood-products. Our study also shows that the magnitude of effects strongly depends on how much the use of forest resources is actually restricted.

Keywords: production leakage; biodiversity; EU; forest sector modelling; policy; impact assessment



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Conclusion


- Quantitative model (e.g. GFPM) helps to test complex impacts of policy targets
- Magnitude of effects strongly depends on extent of restriction of forest resource use
=> Participation of Forest-based Industry in further regulating and implementing processes is key
- Moderate (forest) implementation can be compensated by the market and allow for further growth of EU wood product industries
- Intensive (forest) implementation restricts future development of EU wood products industries
- Study shows that EU production deficits are only partially offset by increasing production volumes of wood and wood-products in non-EU countries -> **leakage effect is existent but not 100%**

Further reading: <https://www.mdpi.com/1999-4907/13/8/1225/pdf>



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Thank you very much for your attention!

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Foto: aid/Peter Meyer

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