Europe: Harvesting less?
Main findings of the Assessment of Possible Production Leakage from Implementing the EU Biodiversity Strategy on Forest Product Markets

Matthias Dieter*, Franziska Schier, Susanne Iost, Björn Seintsch, Holger Weimar

Thünen Institute of Forestry

* Presenter

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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
### Two alternative EUBDS-implementation scenarios for Germany

<table>
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<th>EUBDS-Szenarios</th>
<th>Moderate implementation scenario (MSC)</th>
<th>Intensive implementation scenario (ISC)</th>
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| 1.) Legal protection of a minimum of 30% of the land area | - Natura 2000 sites and sites for natural forest development  
- **Target value:** 5.4 M ha                                                                           | - 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 timer use) | - All land use types proportionally contributing  
- Old growth forests: not existing  
- **Target value:** 1.3 M ha                                                                           | - 0.5 M ha agriculture (wetland restoration), 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 m³ 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

(Industrial roundwood + fuelwood)

- historical development (His)
  increasing from 1990 - 2017
- reference sc (RSC)
  increasing to nearly 600 M m$^3$ in 2050
- moderate sc (MSC)
  increasing but - 67 M m$^3$ lower than RSC in 2050
- intensive sc (ISC)
  decreasing and - 339 M m$^3$ lower than RSC in 2050

Source: Schier et al. (2022)
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).
Relative changes in EU production and consumption 2050

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

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
  - \(179.1 \text{ M m}^3 (53\%)\) in ISC and \(40.6 \text{ M m}^3 (63\%)\) in MSC
- and partly no longer produced worldwide
  - \(160.0 \text{ M m}^3\) in ISC and \(24.1 \text{ M m}^3\) 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
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%

Thank you very much for your attention!

Contact:

Prof Dr Matthias Dieter  
Tel: 0049 40 73962 300  
Email: matthias.dieter@thuenen.de

Thünen Institute for Forestry  
Hamburg  
Web: www.thuenen.de/en/institutes/forestry


Schier F, Iost S, Seintsch B, Weimar W, Dieter M (2022): Assessment of possible production leakage from implementing the EU Biodiversity Strategy on forest product markets. Forests