

# BOOK OF ABSTRACTS

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FORESTS & SOCIETY  
TOWARDS 2050



STOCKHOLM 2024  
WORLD CONGRESS  
26th **IUFRO**  
FORESTS & SOCIETY TOWARDS 2050

Stockholm, Sweden  
23–29 June 2024

## **Carbon pricing policies in the forestry sector: Possible leakage effects when accounting for intra- and inter-sectoral dynamics**

T2.11 Forest-based sector in sustainability transformation: opportunities and sectoral impacts

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**Abstract:** Forest-based measures for climate change mitigation are acknowledged to hold the global temperature target of the Paris Agreement in reach. To foster carbon sequestration in forests and in forest products, carbon pricing policies appear to be promising approaches. Forest sector models are established instruments to assess the impacts of carbon pricing policies on forestry and wood product markets as well as on forest-based mitigation potentials.

Modelling researches reveal that leakage effects might undermine the climate change mitigation potential of carbon pricing policies in the forest sector. Limited by the system boundaries of forest sector models, past assessments are mainly focused on intra-sectoral dynamics. Especially the spatial displacement of economic activities between regions pursuing a carbon pricing policy and foreign regions is analysed. However, the forest sector is embedded in the overall economy and increases in forest-based carbon sequestration might be offset by economic dynamics in other sectors. Therefore, the consideration of inter-sectoral implications seems important for quantifying leakage effects.

In this study, the Global Forest Products Model (GFPM) is linked to DART-BIO, a computable general equilibrium (CGE) model, to complement modelling approaches of leakage effects related to carbon pricing policies in the forest sector. Through the linkage, inter- and intra-sectoral dynamics are analysed simultaneously when carbon sequestration in the forest sector is valued. For this analysis, varying carbon tax and subsidy policies are integrated into the GFPM to value carbon fluxes. The sensitivity of inter- and intra-sectoral leakage effects is analysed over a range of carbon prices and through changes in valued carbon pools.

The results show a need to evaluate climate change mitigation policies involving forest-based measures from an overall perspective to achieve effective GHG reductions at the global level.