

The European Forest Institute and the Finnish Forest Research Institute: The supply of woody biomass from the forests in the EU can be significantly increased

The supply of woody biomass from the forests in the European Union can be increased significantly beyond the current level of resource use. However, this requires fast and intensive political decisions and a comprehensive strategy at the EU level.

The theoretical biomass potential from the European forests in 2010 is nearly 1.3 billion m³ including bark. Approximately half of the potential is made up of stemwood and the rest consists of logging residues, stumps and woody biomass from early thinnings in young forests. The potential is, however, reduced to about 750 million m³ due to various environmental, technical and social constraints. The constraints affect especially residues, stumps and biomass from early thinnings.

Reduction of biomass harvesting on poor sites in order to avoid nutrient loss is an example of an environmental constraint. Soil bearing capacity may limit harvesting on soft soils and in an example of a technical constraint. Furthermore, varying availability of biomass due to different forest ownership structure can be considered as a social constraint. Nevertheless, a full impact assessment of intensified harvesting was not conducted.

The future potential of woody biomass was estimated for three mobilisation scenarios. The scenarios differ with respect to, e.g., the political environment and the attitude of society towards use of wood. If there will be a strong focus on the use of wood for producing energy and for other uses, the potential can increase even to 898 million m³ in 2030. Alternatively, if possible negative environmental effects of intensified use of wood are considered very important, the potential may go down to 625 million m³. The real potential is still lower, if also the economical constraints, like procurement costs, are taken into account. A case study in North Karelia in Eastern Finland showed that if the paying ability of a user of logging residues reduces 4%, the potential may diminish even 28%.

Demand of woody biomass increasing

The results were part of a larger research project called EUwood. This project aimed to contrast the demand for wood for energy and for products with the potential supply of wood from forests and other sources (e.g. industrial residues and recycled wood) for the 27 EU member states.

As with woody biomass from forests, the supply of woody biomass outside forests can be increased. At the same time, the demand of woody biomass in industry and especially for energy might increase considerably – possibly even beyond the supply. To be able to respond the growing demand, on the one hand the supply should be increased both from forests and from the other sources. On the other, the demand of wood could be reduced by increasing energy efficiency and by developing other than wood-based renewable energy sources.

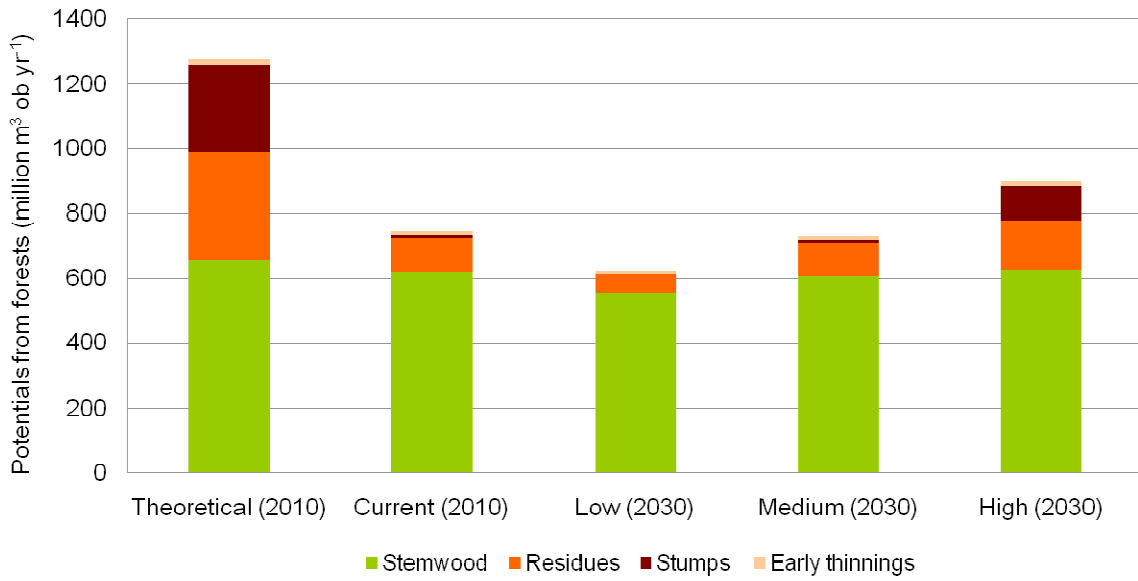
The project was coordinated by the University of Hamburg and the other partners were UNECE/FAO, European Forest Institute, Probos and Finnish Forest Research Institute. EUwood project was funded by the EC DG Energy.

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Final reports: http://ec.europa.eu/energy/renewables/studies/bioenergy_en.htm

For a quick read, please download EFI News 3-2010 featuring the project on pages 10-11.
http://www.efi.int/files/attachments/efi_news/efi_news_2010-3.pdf



Environmental, technical and social constraints reduce the potential of woody biomass from forests by 30-50%. Source: Verkerk et al. 2010.