

RAW MATERIAL REQUIREMENTS OF THE WOOD FUELS MANUFACTURING INDUSTRY

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Abstract: *Cost-effective commercialization of wooden forest biomass is a key factor for a profitable harvesting operation. Bioenergy production capacity is still a largely growing market and processes in use are still very much in evolution. The use of forest biomass also varies greatly, not least between the different wood fuels produced for energy production regarding its proportion relatively to the other constituents in the different wood fuel's product resource mix. Thus, the requirements towards the forest biomass for the production of wood chips differ from that of wood pellets.*

To form an adequate product for the respective wood fuel, besides knowing the demanded quantity, it is essential to know exactly the quality requirements of the different branches of the wood fuels manufacturing industry. This paper gives an overview on the requirements for the main different technologies and products gathered from communication with representatives for front-line industries, literature studies and analyses. Freshness criteria are assessed as is the overall adequacy of the forest biomass and its possible variations within the resource mix for the different types of wood fuels.

Research on this is part of the joint project 'FlexWood' funded within the European Union's Seventh Framework Programme. FlexWood aims at the design and implementation of a novel logistic system based on more accurate resource information allowing for an adequate use of harvesting systems in order to optimally supply industrial demand according to the specific requirements.

Background

The EU-funded Collaborative Project FlexWood aims at the design and implementation of a novel logistic system based on more accurate wood resource information allowing for an adequate use of harvesting systems in order to optimally supply industrial demand according to the specific requirements. This implies the necessary flexibility and adaptability throughout the whole Wood-Supply-Chain to respond quickly to the rapid changes in today's varying environments. The Consortium consists of 14 partners representing 9 countries and is comprised of leading SMEs, universities and research centres and associations.

The presented study was conducted within the project subtask WP3 responsible for identifying the general and specific wood raw material requirements of the main different manufacturing industries and focused on the processes of the first transformation of wood for energy purposes. Thus, heat and power plants on the one hand and pellet producers on the other were identified as the main industrial consumers of forest biomass. The results are based on telephone interviews with representatives of industrial representatives within several countries of the European project partners and concentrate on the current use of forest biomass within their production and in the medium-term. 34 wood chips consuming heat and power plants between 180 kWh_{th} and 23,4 MWh_{th} annually as well as 18 pellet producers with an annual production ranging from 1.000t to 282.000t have been interviewed in Germany, Austria and France regarding their resource procurement.