

## WORKING OUT THE ENERGY EFFICIENCY AND SUSTAINABILITY EQUATION FOR THE WOOD FUEL CHIP SECTOR?

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### ABSTRACT

The rapid development of renewable energies in Europe requires accurate knowledge of the resources and of the consequences of their utilisation. The various sources must be evaluated in terms of energy performance but also for their sustainability. This study considers the production of forest biomass particularly in the form of wood fuel chips. The aim is to develop a method for evaluating the energy balance and the mineral export according to various management scenarios along the production chain. For that purpose, a simulator was developed, covering the entire process, from felling of the trees in the forest to the delivery of the chips to the end user. The simulation tool, named ForEnerChips, is implemented on the software platform CAPSIS, and is first connected to the growth and yield simulator FAGACEES. In the final stage, the simulation tool is used to evaluate and compare various production and supply scenarios that are representative of current trends or serve to explore potential alternative practices.

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