

The energy co-generation production chain: From forest biomass residues. Muller, A.C. (*Catholic University of Paraná, Brazil; muller@sulbbs.com*); da Silva, C.F. (*Copel, Brazil*); Franzoni, J.A. (*Artefama, Brazil; jafranzoni@brturbo.com*); Hoeflich, V.A. (*Embrapa Forest, and Federal University of Paraná, Brazil; hoeflich@cnpf.embrapa.br; hoeflich@ufpr.br*).

The purpose of this paper is to report an analysis of the application of the concept of productive chains in the co-generation of energy using biomass residues from wood production. The methodology examines the factors involved in the productive systems as well as the institutional mechanisms in order to promote an efficient administration. The paper presents the National Energy Balance, in dimensions such as geographical aspects, and energy potential, sources and types. The study also examines the structure of biomass and energy consumption. The potential capacity of the Brazilian forest sector for energy production is also presented, according to the following components: volume of wood residues produced from planted forests as well as from industrial processing. The institutional arrangement and organizational framework are evaluated through the examination of associated legislation and regulatory acts related to the process of biomass co-generation. A comparison between thermo-electrical co-generation and the generation of hydro-electric power is also presented. The analysis points out the advantages and disadvantages of these alternative measures of energy generation. For conclusion, the study points out the relevance of these components of energy to co-generation in Brazil.