

Valorization of Residues from Forest Industry for the Generation of Energy

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Abstract : The use of biomass to produce renewable energy is one of the forms that can be used to reduce the impact of energy production. Like any other energy resource, there are limitations for biomass use, and it must compete not only with fossil fuels but also with other renewable energy sources such as solar or wind energy. Combustion is currently the most efficient and widely used waste-to-energy process, in the areas where direct use of biomass is possible, without the need to make large transfers of raw material. Many industrial facilities can use agricultural or forestry waste, straw, chips, bagasse, etc. in their thermal systems without making major transformations or adjustments in the feeding to the ovens, making this waste an attractive and cost-effective option in terms of availability, access, and costs. In spite of the facilities and benefits, the environmental reasons (emission of gases and particulate material) are decisive for its use for energy purpose. This paper describes a valorization of residues from forest industry to generate energy, using a case study.

Keywords : bioenergy, forest waste, life-cycle assessment, waste-to-energy, electricity

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