

Direct liquefaction of ligno-cellulosic residues for liquid fuel production

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Description

This study focuses on the valorization of biomass wastes in the Piedmont Region, in Italy, with the aim of producing synthetic liquid fuels. On the basis of a territorial survey, the selected fractions from the separate collection of municipal solid wastes (organic fraction, pruning residues and wood refuses) and, to a lesser extent, the residues of the agro-industry, were considered potentially important, due to their abundance and availability throughout the year. Dedicated arborous cultivations, evaluated on the basis of the land that is currently cultivated, also showed a great potential. The sum of the potential recoverable energy from these three categories reaches 35.99×10^6 GJ/year, i.e. 6.79% of the total final energy consumption of the Piedmont Region.

The target of this valorization is here the conversion of these low energy density biomasses into valuable liquid fuels. The direct liquefaction technology was chosen ...