

Biomass Availability Matrix: Methodology to Define High Level Biomass Availability for Bioenergy Purposes, a Quebec Case Study

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Abstract : Biomass availability is one of the most important aspects to consider when determining the proper location of potential bioenergy plants. Since this aspect has a direct impact on biomass transportation and storage, biomass availability greatly influences the operational cost. Biomass availability is more than the quantity available on a specific region; other elements such as biomass accessibility and potential play an important role. Accessibility establishes if the biomass could be extracted and conveyed easily considering factors such as biomass availability, infrastructure condition and other operational issues. On the other hand, biomass potential is defined as the capacity of a specific region to scale the usage of biomass as an energy source, move from another energy source or to switch the type of biomass to increase their biomass availability in the future. This paper defines methodologies and parameters in order to determine the biomass availability within the administrative regions of the province of Quebec; firstly by defining the forestry, agricultural, municipal solid waste and energy crop biomass availability per administrative region, next its infrastructure accessibility and lastly defining the region potential. Thus, these data are processed to create a biomass availability matrix allowing to define the overall biomass availability per region and to determine the most optional candidates for bioenergy plant location.

Keywords : biomass, availability, bioenergy, accessibility, biomass potential

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