

Solid Biomass for Process Heat in Europe: Future Perspectives

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In Europe, heating and cooling accounts for the largest share of the total final energy consumption (TFEC) and is the main component for the renewable energy share [1]. From the different renewable energy sources (RES) used for heating and cooling, biomass is by far the largest contributor and thus crucial to achieving Europe's renewable energy targets. On the other hand, in the European industry, which has a 25.0% share in the TFEC [2], most energy is consumed in the form of heat. The European industrial sector is still strongly dependent on fossil fuels, so, promoting the deployment of RES in this sector is central to achieving the EU goals. Also, today, the use of solid biomass is often the most cost-effective way of increasing the penetration of RES in the industry. Moreover, there is still a large potential for increasing its use by the European industry.

Malico et al [3] discussed the status of solid biomass use in the European industry as a whole and the available conversion technologies. In this work, the largest energy consuming European industry sub-sectors are analysed in terms of biomass use and growth perspectives. The following industries are studied: iron and steel, chemical and petrochemical, non-metallic minerals, pulp and paper, and food, beverages and tobacco.

[1] European Commission, COM(2017) 57 final (European Commission, 2017).

[2] Eurostat, <http://ec.europa.eu/eurostat/>, Last accessed on 07 February 2018.

[3] I. Malico, R. Nepomuceno Pereira, A.C. Gonçalves, A.M.O Sousa, Solid Biomass for Process Heat in Europe: Sources and Technologies, 13th International Conference on Diffusion in Solids and Liquids: Mass Transfer, Heat Transfer and Microstructure and Properties–DSL (2017).