

Solid recovered fuel production from municipal solid waste: a tourist area plant case study

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The dynamics of municipal solid waste production in tourist areas are affected by the addition of a significant amount of population equivalent during a few months. The case of study concerns a tourist area in the South of Italy where selective collection is quite similar to Greek tourists areas. Peak production is clearly visible during the year. Selective collection variations demonstrate that the tourists' behavior is not adequate to get the same results as with the resident population.

The amount of municipal solid waste to be managed, and the quality of selective collection is consistently influenced by the variability shown also taking into account the interactions with the sector of waste-to-energy.

The paper presents the classification of solid recovered fuel from a municipal solid waste treatment plant in Southern Italy (Figure 1). The characterization methods of waste input and output flow, the mechanical biological treatment line scheme and its main parameters for each stage of the processing chain are presented (Figure 2), together with the research results in terms of mass balance and derived fuel properties.

Under this study, only 31% of refused municipal solid waste input stream from mechanical biological line was recovered as solid recovered fuel with a net heating value (NC=HV) average of 15.77 MJ kg⁻¹; chlorine content average of 0.06% on a dry basis; median of mercury <0.0064 mg MJ⁻¹ and 80th percentile <0.0068 mg MJ⁻¹. The solid recovered fuel produced meets the European Union standard requirements and can be classified with the class code: Net heating value (3); chlorine (1); mercury (1).

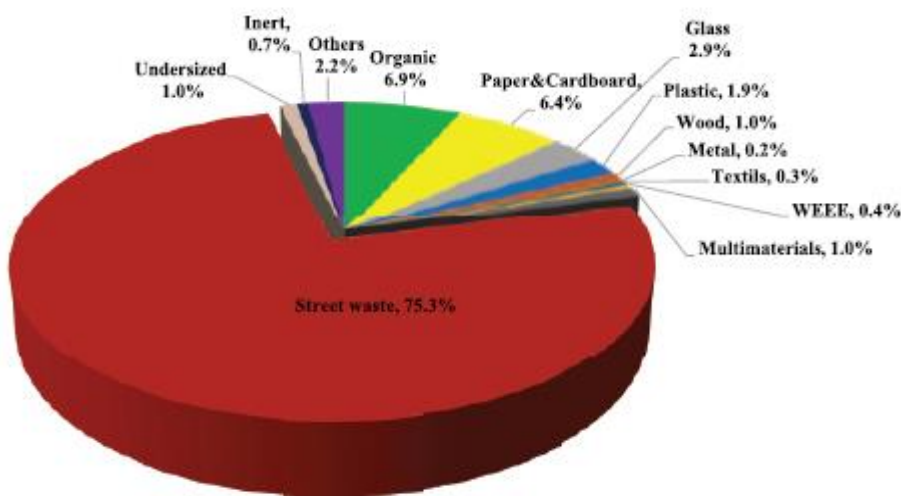


Figure 1 Municipal Solid Waste stream composition in the case study.

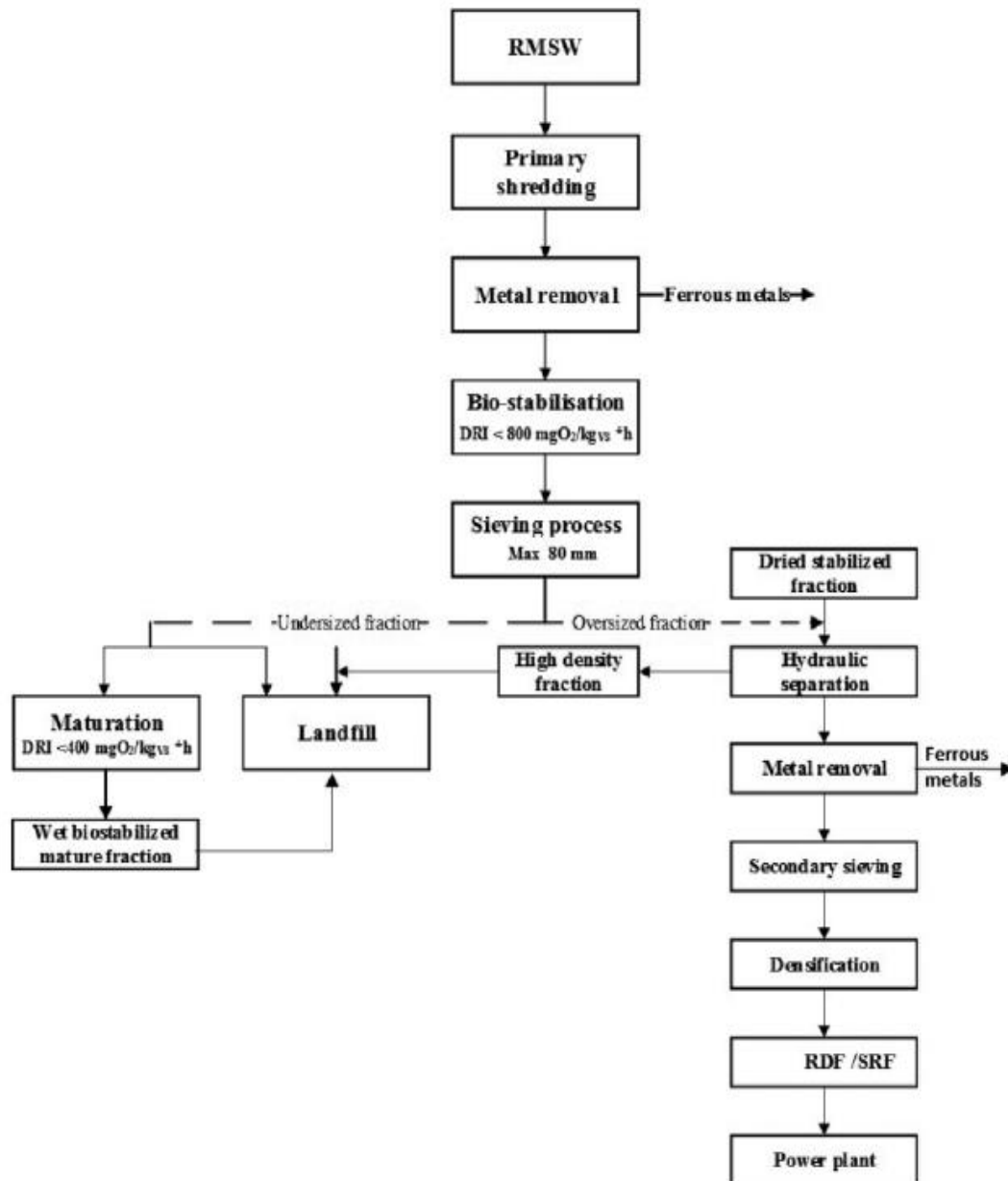


Figure 2: Simplified layout of the residual MSW processing plant for RDF/SRF production in the reported case study.

References

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