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Carbon Footprint and Exergy Destruction Footprint in White Wine Production Line

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Abstract : Wine is the most popular alcoholic drink in the World with 274.4 million of hectoliter annual production in the year of 2015. The wine industry is very important for some regions as well as creating significant value in their economies. This industry is very sensitive to the global warming since viticulture highly depends on climate and geographical region. Sustainability concept is a crucial issue for the wine industry and sustainability performances of wine production processes should be determined. Although wine production industry is an energy intensive sector as a whole, the most energy intensive products are widely used both in the viti and vinicultural process. In this study, gate-to-gate LCA approach in energy resource utilization and global warming potential impacts for white wine production line were attempted and carbon footprint and exergy destruction footprint were calculated, accordingly. As a result, carbon footprint and exergy destruction footprint values were calculated to be 1.75 kg CO2eq and 365.3kW, respectively.

Keywords : carbon footprint, exergy analysis, exergy destruction footprint, white wine
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