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Quantifying the sustainability of the wine sector through Life Cycle Assessment (LCA)

Abstract

At present, the economy of the Republic of Moldova is largely linear. Although there are circular initiatives, a very small share of waste and by-products is reintegrated into the economy. The new strategic framework of the Republic of Moldova provides for the increase of sustainable practices, from which can be listed: National Development Strategy "Moldova 2030", Moldova-EU Association Agreement, New Association Agenda for 2021-2027, Environment Strategy 2030. They focus on the prevention and management of waste, which is intended to drive economic growth and environmental responsibility. It's certain that the industry has a key role to play in making specific commitments on sustainable production and cooperation along value chains. In this regard, companies need to reconsider their current business models by adopting resource-efficient production. Actually, substantial amounts of resources such as secondary raw materials are transformed into waste, reaching landfills. Only the national wine industry annually generates about 60 thousand tons of by-products, most of which remain unrecovered. Therefore, this study aims to analyse the resulting waste / by-products throughout the value chain and to quantify the sustainability of the wine sector by using the LCA (Life Cycle Assessment) instrument.