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TOOL DEVELOPMENT FOR CARBON FOOTPRINT EVALUATION OF PACKAGING ALTERNATIVES

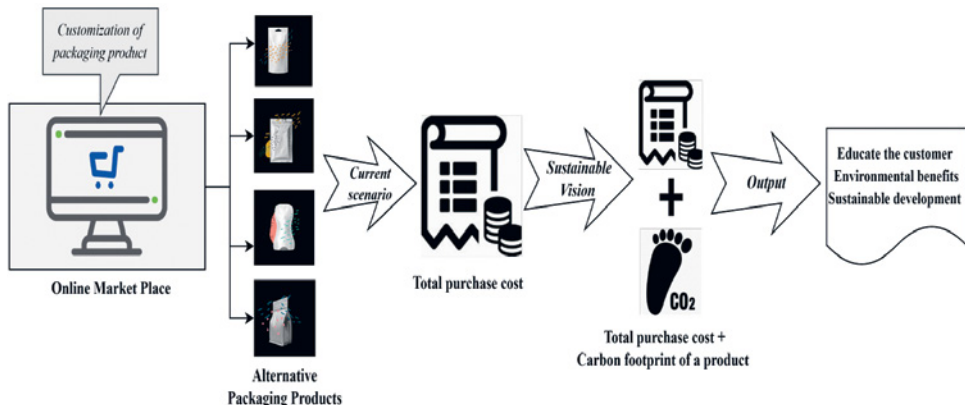
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Abstract – With the increasing concern of pollution, any business willing to reduce its carbon footprint embraces sustainability and positively impacts the progress towards achieving climate neutrality. Well-prepared and presented information to the business customer before purchasing can be a strong driver for better decision-making towards less impactful product alternatives. This study presents the development of a tool that informs customers of an online marketplace for packaging products about the carbon footprint of customer-preferred packaging concerning possible alternatives and, in this way, promotes the reduction of packaging carbon footprint. For tool development, the LCA-based approach includes the raw material extraction stage, packaging production, and transportation to the customer. The impact assessment in the tool is performed according to Intergovernmental Panel on Climate Change (IPCC) 2021 methodology for assessing greenhouse gas emissions based on information obtained from the database *Ecoinvent 3.8*. The final output of carbon footprint calculation is provided with a colour indicator marking the carbon footprint performance of customer-defined alternatives clearly and simply to educate the customer, foster informed purchasing decisions, and improve environmental outcomes.

Keywords – Climate neutrality, GHG, life cycle analysis, online tool, packaging material



Carbon footprint tool for online marketplace.