

عنوان مقاله:

Water Sensitive Approach in Assessing Project Feasibility using the Adaptation of Life Cycle Assessment with Water Quality Index and Water Exploitation Index

محل انتشار:

فصلنامه بین المللی مهندسی صنایع و تحقیقات تولید، دوره 35، شماره 1 (سال: 1402)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

Life cycle assessment (LCA) is a valuable tool not only for analyzing the environmental impact of a product but also for assisting in early-stage product development before incurring scaling-up costs. When validating a new process or project, it may be constrained to align with existing regulations or standards. Therefore, combining LCA with other applicable standards is essential to demonstrate the project's feasibility. In this regard, the water quality index (WQI) and Water Exploitation Index (WEI) provide additional information that reflects the overall water quality at a specific location and time. The objective of this study is to utilize the LCA framework in conjunction with the Malaysia WQI and WEI to protect the water quantity and water quality of the river. A negative change in the WQI score indicates that the current effluent from the process is degrading the river's classification, rendering it undesirable and necessitating a reduction in concentration. The findings demonstrate that the method for determining effluent requirements for a water treatment system is straightforward and replicable. Such an approach could be employed, for example, in an environmental impact analysis of a project to verify its viability.

کلمات کلیدی:

Life Cycle Assessment, Water Quality Index, Water Exploitation Index, Water Sensitive Approach, River Management

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