Análisis de Ciclo de Vida en la determinación de la energía contenida y la huella de carbono en el proceso de fabricación del hormigón premezclado. Caso estudio planta productora Región del Bío Bío, Chile [

2014

text (article)

Analítica

This paper shows the results of a simplified Life Cycle Assessment, made to determinate the energy and carbon footprint associated to the manufacturing process of a ready-mixed concrete plant in the Region of Biobío, Chile. The energy consumption and CO2 emissions were measured during one year of production and excluding the corporate measure. The used environmental inventory mainly considers major inputs of raw materials transportation, dispensing process, loading and delivery. Applying the life cycle inventory (LCI) as IS0 14040-2006, the study case showed that, it is necessary 342 MJ, with a carbon footprint of 26 Kg/CO2 to produce a cubic meter of ready-mixed concrete. Comparing these results with international databases, the study case proved to be a 37, 5% lower in embodied energy and more than 50% less of CO2 emissions.This investigation concluded that the unitary process with the most environmental impact, considering energy consumption and CO2 emissions, it was related to the indirect transportation of raw materials, mainly aggregates, which represent a 46% of the total system studied
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