

Assessment of the carbon footprint of rubberwood sawmilling in Peninsular Malaysia: challenging the green label of the material

ABSTRACT

Rubberwood is an important wood resource for the wood-based industry in Malaysia and the neighboring countries in the Southeast Asian region. Many studies have been conducted to assess rubberwood's properties and economic viability for value-added wood products manufacturing. However, information on the material's environmental performance and green labeling is limited. Therefore, the life cycle approach was carried out in this study to evaluate the carbon footprint of rubberwood rough green sawn timber production. A cradle-to-gate approach was applied. The results indicated that the carbon footprint for rubberwood rough green sawn timber production was 52.9 CO₂-eq/m³. However, when taking into consideration the carbon footprint of the whole rubberwood sawmilling industry in comparison to the Dark Red Meranti sawmilling industry, it is apparent that the total carbon footprint of the rubberwood sawmilling industry is remarkably higher. This is due to the use of inefficient processing technology, which leads to a high level of wastage on the harvesting site and in the mill. Therefore, this study shows that the green label accorded to rubberwood appears questionable from the perspective of its carbon footprint, and that efforts must be taken to minimize the waste if the material is to achieve a green material status.

Keyword: Carbon footprint; Life cycle; Sawmilling; Rubberwood; Green material