

Assessment of environmental emissions from sawmilling activity in Malaysia

ABSTRACT

The sawmilling sector is the backbone of the Malaysian wood-based industry. Sawn timber is used extensively for further manufacturing of secondary wood-based products. The conversion of saw-logs into sawn timber releases several gases into the atmosphere, and these may contribute to environmental burdens as well as environmental impacts. Thus, this study aims to determine the environmental performance from gate-to-gate in the sawmilling industry using the life cycle assessment technique. Data pertaining to the saw-logs and energy consumption was calculated, and the environmental performance was assessed. The study focused on two different size sawmills and two tropical hardwood species. The findings concluded that several types of gases namely, CO₂, CH₄, NO_x, N₂O, SO₂, and CO were discharged to the environment as a result of sawmilling processes. The discharge of these gases impacted the environment in the form of global warming, acidification, human toxicity, eutrophication, and photo-oxidant formation potentials.

Keyword: Environmental burdens; Environmental impacts; Life cycle; Sawmilling; Meranti