

## **Life Cycle Impact of Paper and Plastic Carrying Bags based on the Philippine Material and Energy Supply Chain**

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### **ABSTRACT**

Some cities of the Philippines started banning the use of plastics bags, replacing it with paper bags for environmental considerations. This study looks at the life-cycle environmental tradeoffs between plastic and paper in the Philippines accounting for its recorded energy and material supply chain, and energy mix together with its source regions. Similar studies have been done in other countries; however results may not be valid for Philippine scenario due to variations of energy and material supply chain. Emissions and effluents covered include those disposed to land, water, and air. Results are expressed in impact areas covered: global warming potential, acidification, human toxicity potential, photochemical, biotic depletion, and abiotic depletion. Study was commissioned by the Department of Energy and Natural Resources to aid policy development in waste management.

**KEYWORDS:** Life cycle assessment; plastic; paper; carry on bags; supply chain