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**A GUIDELINE ON CONDUCTING LIFE CYCLE ASSESSMENT
FOR THE PULP AND PAPER INDUSTRY**

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ABSTRACT

This manuscript presents a guideline for conducting a life cycle assessment for products associated with the pulp and paper industry. Life cycle assessment is an effective environmental management tool used in assessing the environmental impacts of a product throughout the life cycle of the product on a “cradle-to-grave” basis. This study aims to prepare companies involved in the pulp and paper industry in performing a life cycle assessment of the pulp and paper products. Data are mainly collected by reviewing the Profile of the Pulp and Paper Industry, 2nd Edition prepared by the US Environmental Protection Agency in November 2002. All material and resources use, energy use and emissions to environment of each process in the life cycle of the products of the pulp and paper industry which should be identified and analysed are listed and presented. In the third phase of the life cycle assessment, the impact assessment, the characteristics of all the pollutants which have high potential to be emitted from the processes in the pulp and paper industry are identified through classification based on their environmental impact potentials. These include non-renewable resources depletion, global warming, acidification, eutrophication, photochemical ozone formation, solid waste generation and impacts on the public. A number of modifications and improvements are also suggested for the companies involved in the pulp and paper industry in order to reduce the environmental impacts which could be caused by the industry. Waste minimization, implementation of environmentally friendly technologies and close monitoring of the emissions from the industry are the more feasible and efficient modifications and improvements which can be considered.

