



Company
BIO PAPPTEL

Sector:
Pulp and paper

Location:
Oaxaca, México

Date: July 28th, 2020

ABOUT BIO PAPPTEL



With a history of more than 35 years, Bio Pappel[®] began with an ambitious dream: To build a world-class paper company to promote integral sustainability by recovering post consumed paper and cardboard, the efficient use of water and energy and the sustainable use of our forests, guided by one purpose: To serve Mexico with the best of our entrepreneurship, supported by a strong culture of learning and innovation, inspired by the best business practices of the international paper industry.

Since then, the company has built a successful history in the paper industry, expanding not only vertically but geographically to become an international company and the largest manufacturer of paper and paper products in Mexico, with operations in the United States and Latin America.

Faced with this problem, Bio Pappel[®] has decided to be part of the solution and has started important tasks such as the efficient use of water in all its processes, zero water discharges system and wastewater treatment. In addition, Bio Pappel[®] is constantly looking to increase competencies. They have recently initiated a staff training project in the use of tools that allow them to improve their water management, with an internationally valid methodology and recognition over stakeholders, that will enable them to quantify their potential impacts of their activities on water resources.

This is how Bio Pappel[®] has provided the tools and facilities for its staff to know and develop projects for Water Footprint quantification according to the ISO 14046 standard and following the recommendations for regional coherence developed by the community of practice in Latin America.

It is important to mention that, when talking about Water Footprint, not only the volume is considered, that is, the amount of water consumed throughout the life cycle; but also its availability, varying from one region to another, as well as the water quality and the impacts such as contamination of aquatic ecosystems and the water source.



Products: Large paper rolls for packaging and containing, white and brown liner paper for packaging. Corrugated and high graphic boxes, newsprint and paper bags.

McKinley[®]

Is the largest Mexican company paper, corrugated packaging and containing manufacturing in the United States. It has an extensive production and distribution network, from its industrial plants in the states of Washington, New Mexico, California, Texas, Georgia, Colorado, Arizona and Indiana, as well as Baja California in Mexico. Products: Paper for packaging and containing, corrugated boxes.



MAIN PRODUCTS

Scribe[®]

Is the largest integrated white paper company in Mexico and Latin America. Products: Large bond paper rolls for books, continuous forms and commercial printing, cut bond paper and notebooks.

Titan[®] Empaques

Is the largest paper manufacturer and leader in the production of corrugated and high graphics packaging in Mexico and Latin America. It maintains the leadership in its field thanks to the structured strategy of vertical integration, geographical presence, a wide national network and advanced technology to stay ahead.



CONTEXT

Bio Pappel Oaxaca Industrial Plant is located in Col. La Reforma Mun. San Juan Bautista Tuxtepec Oaxaca C.P. 68445. México.



GOAL

Quantify the potential impact to water of 1 ton of Kraft paper produced in the Paper Machine No. 1 at Bio Pappel Titan Plant located in Tuxtepec, Oaxaca during 2018.



SCOPE

The Water Footprint study of Kraft paper produced in Machine 1 is based on one ton of paper without making a distinction to the type of weight and specifications in general, because it is the model that represents the highest volume of production during the year 2018.



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SYSTEM BOUNDARY



System boundary



FUNCTIONAL UNIT

Produce 1 ton of Kraft paper in Paper Machine 1, at the Titan Oaxaca Plant in 2018.

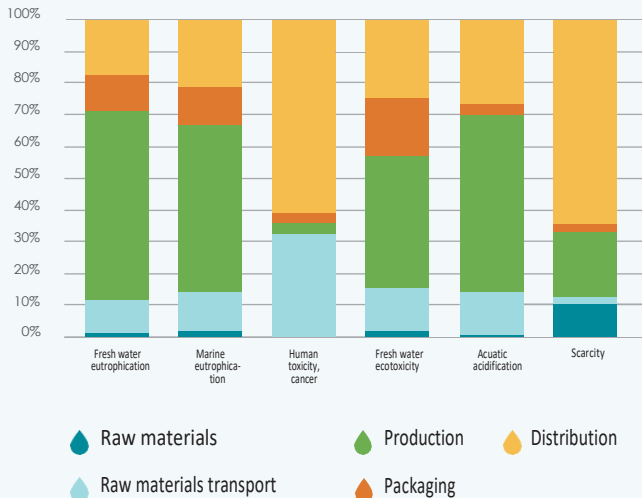


Figure 1. Results of the LCIA of the Water Footprint of 1 ton of Kraft paper.

As can be seen in Figure 1, the production stage presents the greatest impacts, followed by the distribution stage.

Production stage generates major contribution to Fresh water eutrophication with 59.55%, followed by the Distribution stage with 17.11%

Regarding marine eutrophication impact, the Production stage contributes with 52.63% followed by Distribution stage with a contribution of 21.24%.

Distribution stage contributes the most to Human Toxicity - non-cancer with 60.53%, followed by Transport of Raw Material with 32.34%

La categoría de Acidificación Acuática se ve mayormente afectada en la etapa de Producción con 55.71 % seguida de la etapa de Distribución que contribuye con 26.04%.

Regarding Scarcity, the two stages that contribute the most are Distribution and Production, the first with 64.31% and the second with 20.61%



SIGNIFICANT ISSUES

For the freshwater eutrophication category, the major impacts come from chemical substances with 34.03%, AC 1220 with 14.13% and sulfuric acid with 7.48%.

For the category of marine eutrophication, the major impacts come from the chemical substances with 30.65%, AC 1220 with 15.98% and foaming agent 3092 with 7.99%.

For the category of human toxicity, the greatest impacts come from sulfuric acid with 17.15%, AC 1220 with 15.76% and urea with 11.68%.

Regarding ecotoxicity in fresh water, the greatest impacts come from urea with 74%, followed by the Puebla Collection Center with a contribution of 13.50%.

For the category of aquatic acidification, the major impacts come from the chemical substances with 27.93%, AC 1220 with 13.03% and sulfuric acid with 11.97%.

For the Scarcity category, the greatest impacts come from AC 1220 with 24.47%, sulfuric acid with 22.76% and foaming agent 3092 with 12.23%.



OPPORTUNITY AREAS

The Raw material transport, which involves activities of collection, transportation, storage and packaging of secondary fiber, represent significant impact on water footprint of this stage, therefore is a priority for the Integrated Management System to be addressed as a risk/opportunity based on the established methodology by Bio Pappel.