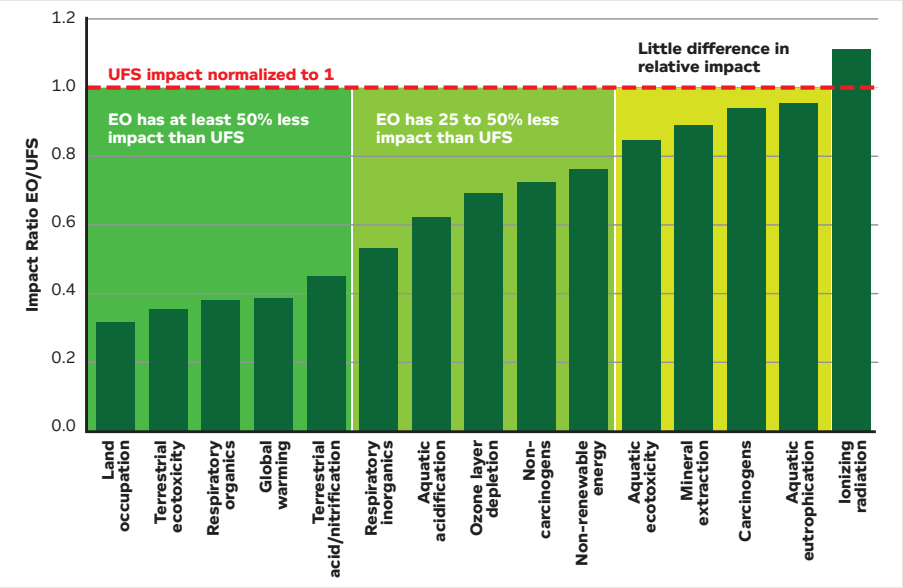
Equal Offset™ Life Cycle Assessment Study

AbitibiBowater commissioned a Life Cycle Assessment study (LCA) to examine the environmental impacts of the production, transportation, usage and disposal of Equal Offset™ (EO) as compared to traditional offset paper – Uncoated Freesheet (UFS). Customer experience has shown that these products can be used interchangeably. The study considered a full range of inputs and outputs throughout the product life cycle, and the results were compelling.



In 14 of the 15 categories examined, Equal Offset had a lower environmental impact than UFS

- In five categories, the impact was reduced by more than 50%.
- In five categories, the impact was reduced by 25 to 50%.
- In four categories, the impact was reduced by less than 25%.
- In one category, the impact was slightly higher (ionizing radiation).

These findings should be similar for other AbitibiBowater UFS-substitute products manufactured at Alma (Quebec) such as Alternative Offset, ECOPAQUE™, ECOPAQUE LASER™ and ECOLASER™ since the basic manufacturing process is the same, with only minor recipe changes.

The most significant results were found in areas of particular interest to the pulp and paper industry.

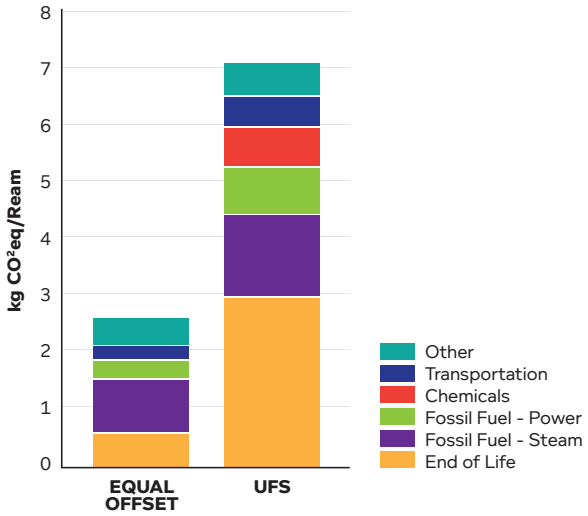
Land Occupation and Terrestrial Ecotoxicity

- These two categories represent the most significant reductions (see figure above).
- Fewer trees are used for Equal Offset due to the higher pulping yield, reducing the impacts on land occupation (31% of UFS impact).
- Equal Offset had reductions in ash production, chemical use and transportation, reducing impacts on terrestrial ecotoxicity (35% of UFS impact).

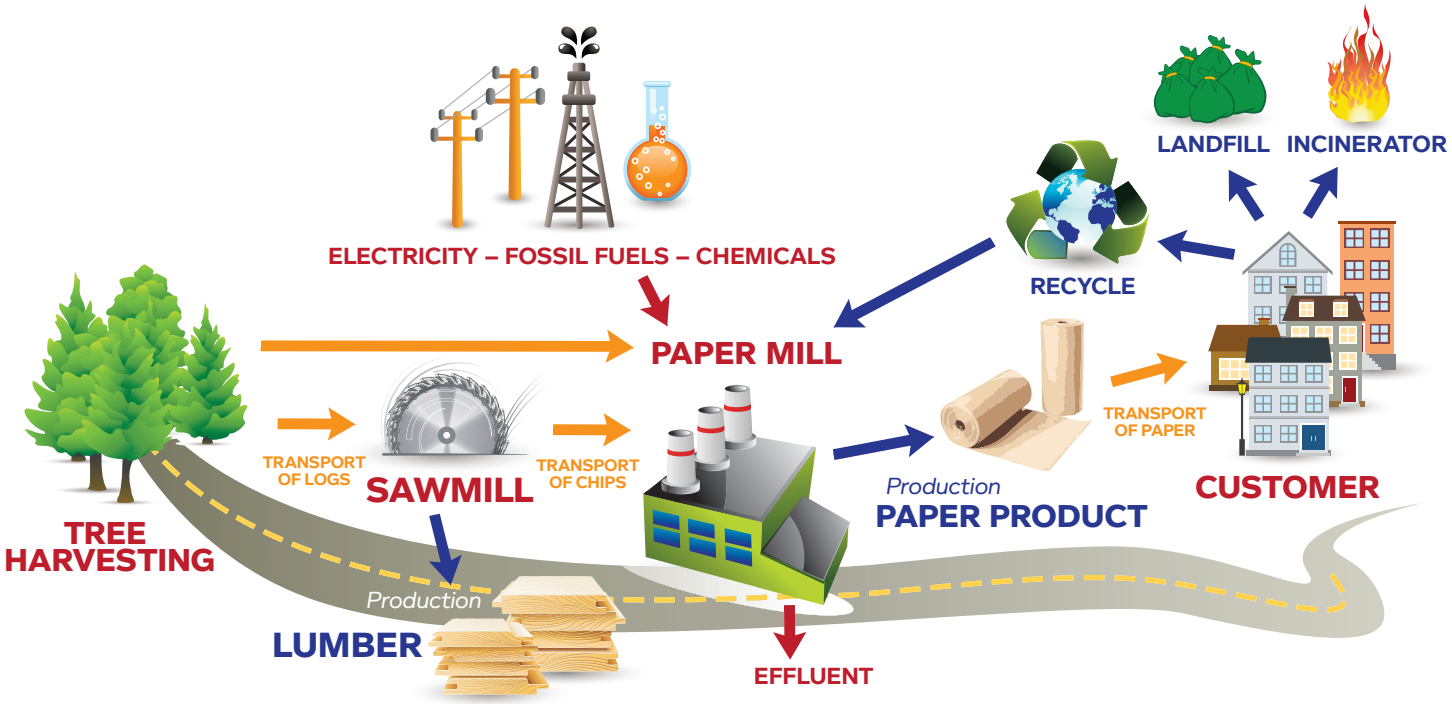
Global Warming

- It was found that Equal Offset emits only about 38% of the greenhouse gases associated with the production of UFS over its life cycle.
- The figure to the right illustrates the breakdown of the processes that contribute to greenhouse gas emissions.

Life Cycle Greenhouse Gas Emissions for EO and UFS



Life Cycle Stages for EO and UFS



The Analysis Was 'Cradle-to-Grave'

- Inputs included wood fiber, chemicals, fuels and electricity.
- Outputs included air emissions, liquid effluent, solid wastes and disposal.
- EO inventory data came from AbitibiBowater's mill in Alma (Quebec), and UFS inventory data came from publicly available data for two mills (in Quebec and in the southeastern U.S.); the hypothetical customer was in Virginia.
- The two products are handled the same way by the customer, resulting in little if any difference in impact from the use phase, therefore no analysis was included for the usage phase.

LCA Methodology

This Life Cycle Assessment was conducted by Dr. Paul Stuart, Professor of Chemical Engineering, and Dr. Matty Janssen, Post-Doctoral Fellow, in the Department of Chemical Engineering of École Polytechnique at the Université de Montréal. The independent third-party peer review of this LCA was carried out by the Interuniversity Research Centre for the Life Cycle of Products, Processes and Services (CIRAIG).

For more information on this LCA or on AbitibiBowater's Equal Offset™ product line, please contact:

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